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EDITORIAL.

THE four manufacturers of cinchona alkaloids in this country have united in addressing a memorial to Congress, in which they call attention to the inconsistencies of the present law regulating the tariff on these products, both as it relates to the several articles, and to other manufactured products.

Although the subject is treated of in as concise a manner as possible, it is too extensive to permit us to reproduce the memorial; but there are many points which interest both the medical and pharmaceutical professions, as well as those more especially interested in the manufacture of quinia and its congeners.

A noticeable feature of the memorial is the fact that a prominent firm in this city which, during the agitation of the question last year, favored the removal of tariff duty from quinia sulphate, has now joined the others in the effort to secure a reconsideration of the question by Congress.

ON the 10th of February, over one hundred and fifty druggists of Iowa met at Des Moines, in answer to a call signed by over two hundred and fifty persons, for the purpose of organizing a State Pharmaceutical Association. Mr. Geo. H. Schafer, of Fort Madison, Iowa, had been the active mover in the enterprise, and the earnestness with which he was seconded in his effort gives occasion for believing that the association which has been organized will exert a decided influence upon the practice of pharmacy in that portion of our country. On page 94 will be found a brief report of the proceedings taken from the *Iowa State Register*.

COINCIDENT with the convention of Iowa druggists, a bill was before the Legislature of that State to enact a law governing the practice of pharmacy and the sale of poisons. The essential features of the bill are similar to those of laws of like tenor, recently adopted in other States; and owing to the strong interest manifested in its favor, there is little doubt that the act will, with slight modification, be adopted.

WE ask attention to the communication of the presiding officer of the Pharmacopœial Convention, which we publish on page 95. There appears to be a want of appreciation, on the part of those bodies which are empowered to send delegates to the next convention, of the importance of the occasion, and of the regulations pertaining thereto, which were adopted by the convention of 1870. We therefore append Rules 1, 2, and 3, and hope that the organizations entitled to representation will give the subject immediate attention, so that we may be able to report in April the complete list of delegates.

1. The President of this Convention shall, on the first day of May, 1879, issue a notice,* requesting the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy throughout the United States, to elect a number of delegates, not exceeding three, to attend a General Convention, to be held in Washington, on the first Wednesday of May, 1880.

2. The several incorporated bodies thus addressed, shall also be requested by the President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors through their delegates, or through any other channel, to the next Convention.

3. The several medical and pharmaceutical bodies shall be further requested to transmit to the President of this Convention the names and residences of their respective delegates as soon as they shall have been appointed, a list of whom shall be published, under his authority, for the information of the medical public, in the newspapers and medical journals, in the month of March, 1880.

A CORRESPONDENT of the *Boston Medical and Surgical Journal*, writing from Philadelphia, re-

* See NEW REM. for 1879, p. 189.

marks that at an annual election by the Philadelphia County Medical Society, held on the 21st of January, Drs. Henry H. Smith, Richard J. Dunglison, and J. Howard Taylor were elected delegates to the Convention to Revise the Pharmacopœia. As the Rule I., adopted at the last convention, provides only for the election of delegates from "the several incorporated *State* Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy throughout the United States," we are at a loss to understand what authority exists for such action on the part of our Philadelphia brethren.

A BILL was introduded into the State Senate in January, by Mr. Foster, entitled: "*An Act* to suppress intemperance, and to regulate the sale of liquors, wines, ale, and beer in the cities of the State of New York," which, if passed, may oblige all druggists, who sell alcoholic liquors which are not to be drunk on the premises, to take out a license, at an expense of thirty dollars. A bill similar in most respects to the foregoing was also introduced in the Assembly, by Mr. Varnum, but is intended to apply only to New York City.

We are at some loss to understand why no clause has been inserted which exempts the sale of such articles upon a physician's prescription, but in a conversation which we have had with a person who has opportunities for knowing whereof he speaks, it was alleged that there are apothecaries who carry on, surreptitiously, the retailing of drinks to such an extent that their acts have led to the omission of such a clause as we refer to.

That this practice is by any means so common as to justify an excise-tax upon *all* apothecaries can hardly be believed. It would be far more just to prosecute, under the Excise Law, the persons who are guilty of such an offence than to impose so unjust a tax upon the great majority of professional pharmacists.

Heretofore, the apothecary has become, in many localities, the only purveyor of pure stimulants proper for the use of the sick; and if, in addition to the revenue tax, his wares must carry an excise tax as well, the profits will hardly warrant him in keeping for sale liquors that are reliable, and the consumer will be obliged to resort to either the corner liquor dealer or the grocery man, neither of whom are, in most cases, as competent to judge of the purity of their wares as the pharmacist.

As we go to press we learn that Senator Astor has introduced a bill to regulate the sale of poisons in this State. The bill has not yet been printed, and we are unable, therefore, to indicate its special features.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

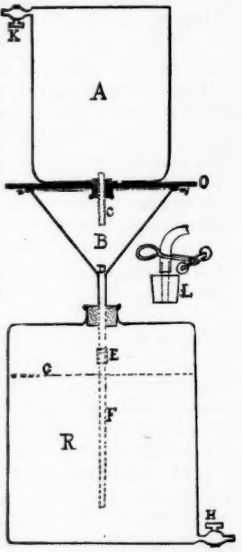
[ORIGINAL COMMUNICATION.]

NOTE ON THE MANIPULATION OF SYRUP OF IODIDE OF IRON, U. S. P.

BY EDW. W. RUNYON.

THE points to be claimed are, rapidity of preparing the syrup, the doing away with glass vessels, and the almost absolute exclusion of exposure to air. These remarks are intended to refer to the preparing of several pounds at a time, rather than to the pharmacopœial quantity.

The writer has been in the habit of manipulating the following enlarged pharmacopœia formula: Iodine, 30 troy ounces; Fine iron wire, 10 troy ounces; Distilled water, 45 fluid ounces; and about 18¾ pints of Simple Syrup.



To make the solution of Iodide of Iron, a vessel is required holding about 3¾ pints, being a *sheet-iron can A*, or vessel capable of holding this quantity, and constructed with a stop-cock (*K*) in the bottom of the can. A good close-fitting cork containing a small glass tube (*C*) comprises the outfit for this part of the apparatus.

The next is a properly selected funnel; one in which the angles at the neck (*D*) of the funnel terminate abruptly; this should be provided with a covered edge (*m n*), of such material that when a cover is placed thereon a very good air-tight joint is effected. A piece of $\frac{5}{16}$ or ¼ inch rubber tubing, of the proper length to reach around the top of the funnel without overlapping, is cut lengthwise and laid over the edge of the funnel, the two ends being sewed to form a close joint. A piece of vulcanized rubber covering (*O*), sufficiently heavy to hold the weight of the can containing the ferrous iodide solution, and having a hole in the centre large enough to admit the neck of the can, is placed on top of the covered edged funnel. A double white filtering paper, capped, being previously placed firmly in the funnel, the end of the funnel is passed through a cork which closely fits in the mouth of the receiving can (*R*); on the end of the funnel, inside the can is attached a glass tube (*F*) reaching part of the way into the syrup.

This vessel also contains a stop-cock (*H*). The apparatus is now ready for use.

As soon as the reaction is over between the iron and iodine, which takes but a short time, and this should be ascertained by noticing that the solution has a green color, the heated syrup is placed in the receiving can, the warm funnel is put in position, then the can containing the iodide iron solution is stoppered with the tubulated cork, and inverted on the top of the rubber cover which rests on the rubber-edged funnel; the glass tube reaching part of the way into the filter. By opening the pep-cock a little, enough air is admitted to allow the solution to run on the filter. The flow is regulated by the admission of air through the pep-cock. When the solution is all filtered, the funnel and cork is disconnected from the receiving can, and in its place is fitted a cork (*L*) containing a short glass tube, on the end of which is a piece of rubber tubing with a pinch-cock attached. The contents of the can are agitated and inverted by the admission of a little air through the pep-cock; the syrup is filled out in proper-sized bottles and immediately corked.

The statement being made, in the fore part of these remarks, that an almost absolute exclusion of air is attained by this manipulation, it is hoped that this will not be accepted in the strict sense of the term. Filtration would be impossible under such conditions. What is intended to be understood is, that the ferrous iodide solution is conducted into the hot syrup with the exclusion of as much air as possible, and under the most favorable conditions for its preservation known to the writer.

As to the use of iron vessels in preparing this syrup—certainly there can be no objection—they should be made of Russia iron, double seamed and soldered on the outside, or more preferably heavy brown paper might be put in the seam before they are doubly turned; this would make a water-tight vessel, and soldering would be unnecessary.

Sometimes the reaction between the iron and iodine is very violent and the heat so great as to vaporize some of the iodine. To prevent this, the vessel may be placed in cold water until the violence of the reaction is over. If then the solution should still have a reddish color, the vessel will have to be heated until the solution acquires a green color, indicating that there is no more free iodine present. When the process is finished, the vessels should be immediately washed out with hot water and drained.

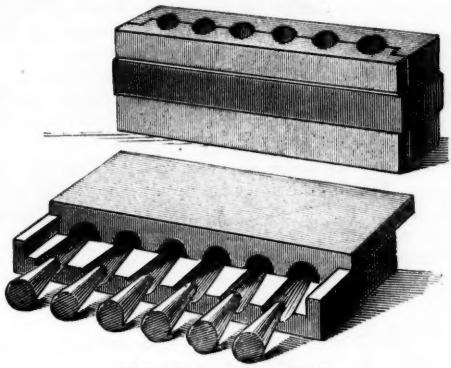
The experience of the writer has proven that the *less time taken* from the beginning to the last part of the manipulation—which is the bottling of the syrup—*the better* is the result. Working in this way, the solution and syrup are very hot, but *there are no glass vessels in danger of being fractured.*

It might be proper to mention that the various articles written upon this preparation relative to its stability, all coincide in the fact that it is not owing to the chemical action of light, but to the oxidizing influence of the air, that iodine is gradually separated. If we use a very heavy syrup, such as can be had from the drippings of rock candy, or made in the proportions of 17 or 18 pounds of sugar to the gallon, which protects the solution much longer than a light-weight syrup, and use the precautions suggested in these remarks, a syrup of iodide of iron can be prepared which contains only what the formula calls for, and one that will remain stable much longer than that made by the directions given us in the present United States Pharmacopœia.

SAN FRANCISCO, CAL., Jan., 1880.

Plaisted's Suppository Mould.

SINCE publishing, in a recent number, the description of a new suppository mould invented by Mr. See, we have become aware of the existence of a similar apparatus patented in 1874 by Mr. J. H. Plaisted, an apothecary in Waterville, Maine. The essential features are the same and in some respects the mould of Mr. Plaisted has advantages superior to the other. The description and directions for use are given by Mr. Plaisted, as follows:



Plaisted's Suppository Mould.

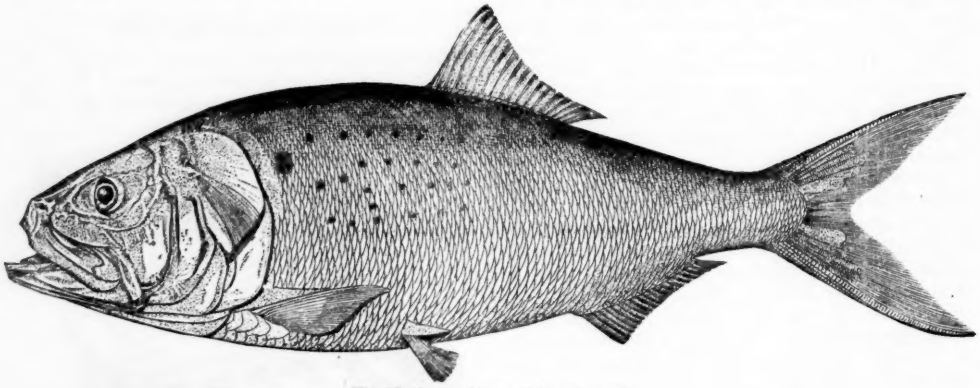
The moulds are made of brass, and each will make six suppositories of thirty grains U. S. P. They are constructed in two parts that they may be separated by a sliding motion in the direction of the axis of the suppository, while a lateral motion or a direct separation is prevented. The object is to facilitate the removal of the suppository from the moulds, and to diminish the danger of breaking it.

One part has two tongues which slide in grooves or slots in the other part. These permit the requisite longitudinal sliding motion, but prevent all lateral motion. The two parts are clamped together by a rubber band.

To use, lay the two parts of the mould on ice, flat side down; when thoroughly chilled, dust

the inside with lycopodium and clamp together with rubber band; allow the mixture to cool nearly to congealing point before filling the moulds.

When the suppositories have hardened, lay the moulds on the flat side and slide the upper part back a little to free the suppositories from the lower part; then slide it forward, clear from the other part, and the suppositories will drop out. The colder the moulds are made before filling the sooner the suppositories can be removed; but suppositories can be made in warm weather without ice, by allowing the mixture to remain about thirty minutes in the moulds. The temperature of the moulds can be much reduced by laying them in a mixture of Glauber's salt and water when ice is not available.



The Menhaden (*Brevoortia tyrannus*).

The Menhaden.

We have already, in a previous number of this journal,* given some interesting extracts from the paper of Prof. G. Browne Goode, U. S. Fish Commissioner, read at the last meeting of the American Association for the Advancement of Science, the subject of which was "A short Biography of the Menhaden." In the following we present some further portions of the same paper.

The herring family is represented on the Atlantic coast of the United States by ten species, all of which swim in immense schools, but the most important of which, both in value and abundance, is the menhaden (*Brevoortia tyrannus*) —a fish whose habits are in many respects anomalous, and concerning which very little has been known and written.

In 1815, the species was described by Mitchill, of New York, under the name *Clupea menhaden*, which has since been commonly accepted. A prior description by Latrobe, in 1802, long lost sight of, renders it necessary, in the opinion of Prof. Goode, to adopt the specific name *Tyrannus*. The genus *Brevoortia*, of which the species is the type, was established by Gill, in 1861.

* New Remedies, 1879, 296.

With the advance of spring, the schools of menhaden appear near our coasts in company with, and usually slightly in advance of, the other non-resident species, such as the shad, alewives, blue fish, and squeteague.

The arrival of the menhaden is announced by their appearance at the top of the water. They swim in immense schools, their heads close to the surface, packed side by side, and often tier above tier, almost as closely as sardines in a box. A gentle ripple indicates their position, and this may be seen at a distance of nearly a mile by the lookout at the masthead of a fishing vessel, and is of great assistance to the seiners in setting their nets. At the slightest alarm the school sinks toward the bottom, often escaping its pursuers. Sailing over a body of menhaden swimming at a short distance below the surface, one may see their glittering backs beneath, and the boat seems to be gliding over a floor inlaid with blocks of silver. At night they are phosphorescent. Their motions seem capricious and without a definite purpose; at times they swim around and around in circles; at other times they sink and rise. Why they remain thus at the surface, so conspicuous a prey to men, birds, and other fishes, is not known. It does not appear to be for the purpose of feeding; perhaps the fisherman is right when he declares that they are playing.

On warm, still, sunny days, the fish may always be seen at the surface, but cold or rainy weather, and prevaling northerly or easterly winds quickly cause them to disappear. When it is rough they are not so often seen, though schools of them frequently appear when the sea is too high for fishermen to set their nets. The best days for menhaden fishing are when the wind is northwesterly in the morning, dying out in the middle of the day, and springing up again in the afternoon from the southwest, with a clear sky. At the change of the wind on such a day they come to the surface in large numbers.

There are no teeth in the mouth of the men-

haden, their place being supplied by about 1,500 thread-like bristles, from one-third to three-quarters of an inch long, which are attached to the gill arches, and may be so adjusted as to form a very effective strainer. The stomach is globular, pear-shaped, with thick muscular walls, resembling the gizzard of a fowl, while the length of the coiled intestine is five or six times that of the body of the fish. The plain inference from these facts, taken in connection with what is known of the habits of the menhaden, seems to be that their food consists in large part of the sediment which gathers upon the bottom of still protected bays, and contains much organic matter, and also upon the vegetation which grows in such localities. Perhaps, too, when swimming at the surface with expanded jaws, they are able to gather nutritious food which floats on the water.

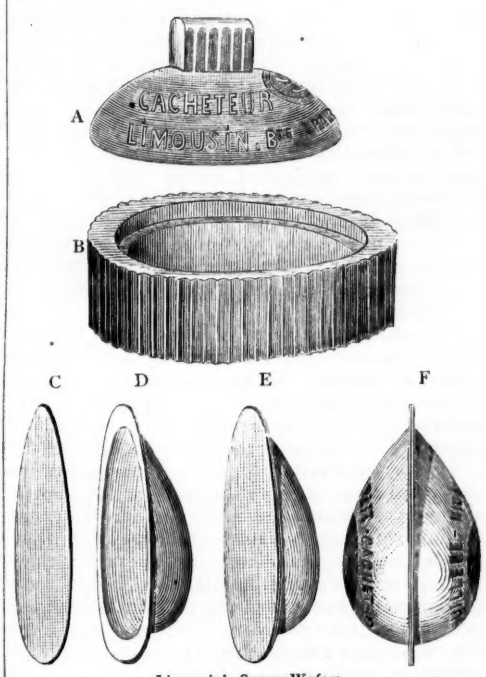
Their rapid increase in size and fatness, which commences as soon as they approach our shores, indicates that they find an abundant supply of some kind of food. The oil manufacturers report that in the spring a barrel of fish often yields less than three quarts of oil, while late in the fall it is not uncommon to obtain five or six gallons.

The commercial importance of the menhaden has but lately come into appreciation. Twenty-five years ago, and before, it was thought to be of very small value. A few millions were taken every year in Massachusetts Bay, Long Island Sound, and the inlets of New Jersey. A small portion of these were used for bait; a few barrels occasionally salted in Massachusetts to be exported into the West Indies. Large quantities were ploughed into the soil of the farms along the shores, stimulating the crops for a time, but in the end filling the soil with oils, parching it and making it unfit for tillage. Since that time manifold uses have been found. As a bait fish this excels all others. For many years much the greater share of our mackerel was caught by its aid, while the cod and halibut fleet use it rather than any other fish when it can be procured. The total consumption of menhaden for bait in 1877 did not fall below 80,000 barrels, or 26,000,000 of fish valued at $500,000. Two years before, when the entire mackerel fleet was fishing with hooks, the consumption was much greater. The dominion mackerel fleet buy menhaden bait in quantity, and its value has been thought an important element in framing treaties between our government and that of Great Britain.

As a food resource it is found to have great possibilities. Many hundreds of barrels are sold in the West Indies, while thousands of barrels are salted down for domestic use by families living near the shore. In many sections they are sold fresh in the market. Within six years there has sprung up an important industry, which consists in packing these fish in oil, after the manner of Sardines, for home and foreign consumption. In 1874 the production of canned fish did not fall below 500,000 boxes. The discovery made Mr. S. L. Goodale, that from these fish may be extracted, for the cost of carefully boiling them, a substance possessing all the properties of Liebig's "extract of beef," opens up a vast field for future development. As a food for the domestic animals, in the form of fish meal, there seems also to be a broad opening.—*Scient. Amer. Suppl.*

Limousin's Spoon-Wafers.

LIMOUSIN has devised a new kind of wafer-capsule for the administration of such medicines which are usually given in larger quantity and are distasteful when taken by themselves, for instance, castor oil, cod-liver oil, bulky powders, etc. These wafers have the shape of a spoon, and are filled as follows:



Limousin's Spoon-Wafers.

B is an oval ring made of glass, provided on its inner side with a projecting ledge, upon which the empty spoon-shaped wafer to be filled is made to rest. The exterior of the glass-ring is ribbed vertically, to afford a good hold for the fingers. The empty wafer having been introduced, the medicine—either liquid or solid—is poured into it, and, provided its bulk is not larger than the cavity of the wafer, the cover is fastened on. A flat wafer (see *C*) is generally used as a cover; but, in the case of bulky powders, which are more than sufficient to fill the hollow

wafer, another spoon-shaped wafer is used as a cover. Whichever kind is taken, its edge is moistened by means of a brush accompanying the apparatus; it is then placed on the other wafer containing the medicine, and the joint compressed by means of the glass-cover *A*. These wafers are so readily prepared that patients may fill and use them themselves.

Pancreatic Ferments.

In a recent number of the *British Medical Journal*, Professor Wm. Roberts, of Manchester, writes as follows on this subject. Referring to one of the four ferments supposed to exist in pancreatic juice, he says:

Proteolytic Ferment of Pancreas.—This has been named trypsin by Kühne. It differs from pepsin in requiring an alkaline, instead of an acid medium for the exercise of its power. Although the action of pepsin and trypsin is the same in its ultimate results—*i. e.*, both convert proteids into peptones—certain differences have been noted between them, not only in the reaction of the medium suitable for each, but also in the manner of achieving their work, and in the by-products which attend their action. I am also led to believe that an important practical distinction between pepsin and trypsin will prove to be the difference in the facility of their attack on the different kinds of proteids. Thus, I found it more easy to peptonize milk by trypsin than by pepsin; on the other hand, egg-albumen was attacked more energetically by pepsin than by trypsin.

The mutual reactions of pepsin and trypsin, when present together in solution, are of some practical interest. Kühne has stated that pepsin in an acid medium destroys trypsin, but that trypsin in an alkaline medium has no such effect on pepsin. The latter part of this statement is, I believe, incorrect. My own experiments on this point gave the following results. When pepsin and trypsin were infused together in a large amount of simple water, at blood-heat, they proved mutually indifferent, and retained their respective activities even after three hours' companionship. But when the mixture was acidified with a few drops of hydrochloric acid, the trypsin was speedily destroyed; and conversely, when the mixture was feebly alkalized with sodium bicarbonate, the pepsin was quite as speedily destroyed. But I found, further, that pepsin was destroyed apparently as quickly in the simple alkaline solution, without any trypsin; and similarly, that trypsin was speedily destroyed in the simple acid solution when no pepsin was present.

These reactions involve a point of practical interest in regard to the medicinal administration of pancreatic preparations. They lead directly to the inference that acid gastric juice is destructive of the proteolytic activity of pancreatic preparations, and that it is useless to administer such preparations by the mouth, unless means be adopted to safeguard them against the action of the gastric acid. It is also plain that some of the new digestive remedies which are being sent out by eminent firms of druggists, and which are recommended expressly on the ground that they contain the combined energies of the gastric and pancreatic juices (two of these are styled respectively peptocolos and peptodyn) are compounded on erroneous principles. Pepsin and trypsin cannot possibly be combined in action. If the two ferments be present together in solution, there is no work to be got from either so long as the reaction is neutral; if you acidify, so as to waken the pepsin into activity, the trypsin is thereby rendered permanently inert; and conversely, if you quicken the trypsin into activity by adding an alkali, the pepsin loses its powers.

The Curdling Ferment of the Pancreas.—The property of curdling milk has hitherto been regarded as the special appanage of the gastric ferment; and I was surprised to find a curdling agent also associated with the pancreatic ferments. All extracts of pancreas, however made, were found to have this power. The action seems identical with that of rennet made from calf's stomach, and takes effect both in neutral and in alkalized milk.

I found that a piece of perfectly fresh pancreas infused in warm milk had only the feeblest possible curdling power. The extract of fresh pancreas, likewise, when newly prepared was inert, but after the lapse of a few weeks it became active. In this respect, the curdling ferment shows parallel behavior with trypsin, and the explanation is probably the same in both cases, namely, that the pancreatic cells do not contain either ferment in a perfect state, but rather in the condition of zymogen or mother-of-ferment. It may be assumed that, in the living animal, the zymogens are converted into active ferments during the process of secretion. In the artificially made extracts, the change takes place more gradually, and is probably of the nature of a slow oxidation.

Pancreatic Diastase.—The pancreas is exceedingly rich in diastase. An aqueous extract of the gland (of which seven ounces represented one ounce of gland-tissue) was found to have about tenfold the starch-converting power of the best malt-extracts. We therefore possess, in pancreatic extracts, an efficient medicinal substitute for saliva in the digestion of starch.

The emulsifying properties of pancreatic juice have long been known; and Bernard demonstrated that this power depended not simply on the free alkali of the secretion, but on the presence of a special ferment.

Medicinal Equivalents of Pancreatic Juice.—There are two pancreatic preparations which have long been before the profession, namely, pancreatic emulsion, and pancreatine, both sent out by Savory and Moore. I found that pancreatic emulsion contained no active ferments;

they had probably been destroyed by the heat used in the manufacture; but it was the most perfect possible emulsion, and when mixed with water, the milk-like fluid showed no tendency to separate after several days.*

The single specimen of pancreatine which I was able to examine was found to have an energetic proteolytic activity, and it also curdled milk; but it had no action on starch, a fact which supplied an unexpected confirmation of the opinion that the four pancreatic ferments are perfectly distinct bodies.

The most complete, active, and convenient medicinal equivalents of pancreatic juice are, however, the liquid extracts of the gland. These may be prepared from the pancreas of the pig, with glycerin, with water, or with brine. The glycerin extract leaves nothing to desire on the score of activity, and it keeps perfectly; but the taste of glycerin is to some persons objectionable, and it seems sometimes to provoke nausea, and even vomiting.

The aqueous extract, as prepared for me by Mr. Benger, will, I think, prove a valuable preparation. It is simply an extract of the gland in water, with just enough spirit added to keep it from decomposition. I propose to call it *Liquor pancreaticus*. A sample of it is on the table before you. It is a limpid, straw-colored fluid, with very little taste or smell of its own, and of nearly neutral reaction. But though so pale and bland, it is an elixir of really remarkable powers; it curdles milk like rennet; it changes starch into sugar with unrivalled energy; with the aid of a little alkali, it transforms albuminous substances into peptones; finally, it emulsifies fats more perfectly than any other known agent. Extracts of pancreas are destined, if I am not mistaken, to play a considerable part in the dietetic therapeutics of the future. Whether the full powers of these preparations can be made available when administered by the mouth, must be regarded as uncertain. As an aid to the digestion of starch, the propriety of giving them by the mouth cannot, of course, be doubted; but the propriety of giving them by the mouth as proteolytic agents is a less simple question, seeing that it requires the addition of an alkali to bring the trypsin into activity; and the addition of an alkali is an interference with gastric digestion which may, or may not, be advantageous to a particular case. I commenced to employ pancreatic extract by the mouth about two years ago, and have now had considerable experience of its use. Guided by theoretical considerations, I have usually directed the dose (a teaspoonful) to be given, with twelve or fifteen grains of bicarbonate of soda, one and a half or two hours after a meal, when gastric digestion might be supposed to be approaching its termination, and the later portions of the meal to be passing into the duodenum. There is at this late period of digestion a tendency to excess of acid in the stomach, and the alkali alone is undoubtedly of service; but I have had, in several instances, striking results from the combination of the extract with the alkali, which I had previously failed to obtain from the alkali alone. I am, therefore, pretty strongly convinced that, by administering a pancreatic preparation towards the end of gastric digestion, you can, under the guardianship of a dose of alkali, convey it into the duodenum, where it arrives opportunely to aid in the important work of intestinal digestion.

* This excellent preparation would be much improved if the strong ethereal and spicy flavor of it could be removed.

Peptones as Food.

THE same writer, in another number of the same journal, gives some very interesting and practical suggestions on this important topic, of which we republish a portion.

Although we have been able for many years to imitate digestion very accurately in the laboratory, the proposal or suggestion to feed patients with artificially digested food has hardly yet passed beyond the tentative stage. There cannot be a doubt that, if we had at our disposal an available supply of artificially digested (or peptonized) proteids in a state fit for human food, we should find numerous conditions in which such a resource would offer promise of important advantage. In the alimentation of fevers, in the malnutrition of infants, in various gastric and intestinal lesions; in short, wherever natural digestion was partly or wholly in abeyance, we should find an ample field for the trial of peptonized food. The attempts hitherto made to prepare peptones and peptonized aliments for the sick have followed the gastric method, that is, the process with pepsin and hydrochloric acid. But so far the results have been disappointing. The difficulty lies in this. If you subject any native article of food—say milk, or bread, or meat—to artificial digestion with pepsin and acid, you utterly destroy the grateful odor and taste, and the inviting appearance, which made it desirable as food, and you convert it into a nauseous mess from which the human palate turns away with disgust. The unsavoriness of digested food is, however, not due to any ill taste and smell inherent in the peptones themselves—which, when purified, are both odorless and tasteless—but to a number of by-products of various kinds, volatile acids and other matters, which accumulate as digestion proceeds. One of these by-products is a bitter flavor, which is a constant and noteworthy characteristic of gastric digestion. I find it also associated with the later periods of pancreatic digestion, but in less intensity. The difficulty can be evaded by separating the peptones from the digested mass, and purifying them by

repeated precipitation with absolute alcohol. But this process involves so much cost and labor, that it would preclude peptones so obtained from getting into general use.*

To be Continued.

Report on Pharmacopœial Assay Methods for Cinchona Barks and Tests for Cinchona Alkaloids.†

BY PROF. ALB. B. PRESCOTT.

PRESENT evidences indicate that the most important requirement for all cinchona barks is that of percentage of total alkaloids. The restriction of our present pharmacopœia, that the "two per cent of alkaloids" shall be those "which yield crystallizable salts," will undoubtly receive the attention of the Committee of Revision. If it is required that the total alkaloids shall be those which form crystallizable salts, an assay method should be provided to secure this requirement. The exclusion of amorphous alkaloids imposes much additional difficulty in providing an assay process suitable for general use. At present, I suggest assay methods for only two requirements: that of percentage of total cinchona alkaloids, and that of quinia equivalent to percentage of its crystallizable sulphate. I presume the valuation of red barks will be based, as now, on percentage of the entire alkaloids (crystallizable or otherwise). Yellow bark may have only a required percentage of quinia; or it may be required to have a certain percentage of quinia, and also a certain percentage of total alkaloids. If anything is required of the pale barks, it will be, of course, total alkaloids.‡

A required yield of 2 per cent of quinia sulphate ($7\frac{1}{2}$ *aq.*) is equivalent to requirement of 1.72 per cent of quinia (3 *aq.*); and a yield of 2 per cent of the latter is represented by 2.33 per cent of the crystallized sulphate. But 2 per cent of quinia, as dried on the water-bath, and containing about 4.28 per cent of water, are equivalent to about 2.6 per cent of crystallized sulphate (with $7\frac{1}{2}$ *aq.*).

I propose, first, De Vrij's method for finding the total alkaloids.§ I consider this a very direct and expedient process, but open to one objection: the waste of precipitated alkaloids in their water washing. "The least sufficient quantity of water" should still be enough to wash away all the sodium sulphate, and if the sodium sulphate is all removed, there is a serious loss of quinia, as the writer has verified.* The other alkaloids, also, are wasted, but their solubilities have been less closely determined. To leave behind some foreign matter by imperfect washing, and thus compensate for loss of alkaloids, is mere guess-work. There seems to be no prospect of finding a coefficient of solubility for correction in the case of the mixed alkaloids. It is chiefly to avoid this washing of precipitated alkaloids that I propose an alternative method, one with the separation of all the alkaloids, from the acidulated water solution, by repeated extraction with chloroform after liberating the alkaloids with an alkali. I have used like methods, becoming now familiar to all analysts, for many estimations of alkaloids. The British Pharmacopœia extracts the dry residue with chloroform, in case of red bark, and with ether for quinia separation in case of yellow bark. The complete removal of alkaloids by chloroform in valuation of scale preparations has been attested by Mr. Palmer.† However, I have not made such trial of this chloroform extraction process as can warrant me now in recommending its adoption for the pharmacopœia. If time permits, I will subject it to trial in comparison with De Vrij's process, examining the amount and purity of the yield by each method; and I offer it in the desire that others may try it, and report as to its merits.

For general use, the exhaustion of the bark by De Vrij's method seems to me sufficient. For the analyst in much practice, a more satisfactory exhaustion of the bark, in mixture with lime, is by continuous percolation with warm chloroform, on the plan of Tollens and others.‡

ESTIMATION OF TOTAL ALKALOIDS.—DE VRIJ'S PROCESS.

Of the bark, in fine powder, and dried at 100° C., mix 20 grams with milk of lime, made from 5 grams of lime and 50 grams of water, and by a very gentle heat thoroughly dry the mixture. Heat it, in a flask, with 200 cubic centimetres of stronger alcohol to boiling. When cool, pour on a filter of about 15 centimetres' diameter. Rinse the flask and wash the filter with 200 cubic centimetres of the alcohol, used in several portions, letting the filter drain after each por-

* Dr. A. Adamkiewicz seems to have prepared fibrine-peptone on a large scale from purified blood-fibrine. He speaks of operating on hundredweights of fibrine. The peptone prepared by him from this source by the acid-pepsin process has been successfully used in feeding patients with intestinal obstruction.—*Natur und Nahrwerth des Peptons.* Berlin: 1879.

† Extract from: Report on the Revision of the United States Pharmacopœia—preliminary to the Convention of 1880—by the Committee of the Amer. Pharm. Assoc. See title on page 86.

‡ The pharmacopœial percentages of alkaloids in barks are and have been comparatively low. Ours, of 2%, total crystallizable, alike for yellow and red barks, is certainly below a fair average quality. Red barks average a higher percentage of total alkaloids than yellow barks. Yet the Br. Ph. provides that yellow bark shall contain 2 per cent of quinia (ether soluble); and red bark, $1\frac{1}{2}$ per cent of total alkaloids (chloroform soluble).

§ J. E. DE VRIJ: Phar. Jour. and Trans. [3], iv., 241, Sept. 27th, 1873. Pro. Am. Pharm. Asso., 1874, xxii, 268. Attfield's Chemistry, Am. Ed. of 1879, 601.

* Am. Jour. Pharm., xlix., 481, Oct., 1877.

† Pharm. Jour. and Trans. [3], vii., 89, July 29th, 1876; Pro. Am. Phar. Asso., 1877, xxv., 302.

‡ B. TOLLENS: Zeitschrift für analyt. Chemie, xvii. (1878), 321. H. B. PARSONS: New Remedies, viii. (1879, Oct.), 293. CARLES: Am. Jour. Pharm., xiv., 27 (Jan., 1873).

tion. Slightly acidulate the liquid with dilute sulphuric acid, letting any resulting precipitate subside ; decant upon a very small filter, and wash this with a little alcohol. Distil or evaporate the filtrate to expel all the alcohol, cool, and pass through a small filter, washing with water slightly acidulated with sulphuric acid, until the washings are not made turbid by solution of soda. [*a*] The filtrate is now concentrated, and while still warm, precipitated by a decided excess of solution of soda. If the alkaloids melt, the mixture must be cooled, and the precipitate pulverized. The precipitate is now collected on a filter, washed with the least sufficient quantity of water, and drained. The moist filter is laid upon successive pieces of blotting paper until nearly dry, the precipitate carefully detached from the paper, and dried in a weighed capsule on the water-bath till it ceases to lose weight. The grams of the dried precipitate multiplied by 5 give the percentage of total alkaloids in the bark.

To be Continued.

Improved Filters.

For the purpose of filtering large quantities of liquids, such as syrups, wines, liquors, and solutions, particularly when it is desirable to

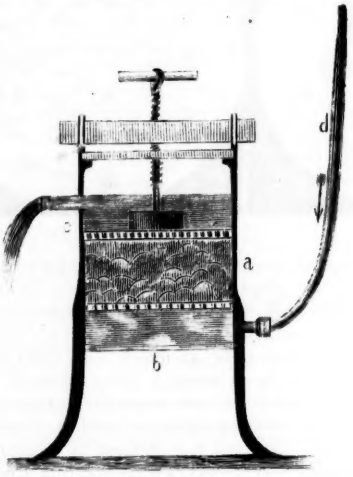


Fig. 1.

prevent their prolonged contact with air, the method of upward filtration is highly advantageous. Such an apparatus is illustrated in Fig. 1. In some form or another, it has been in use for a long time, but seems to be confined to certain classes of trades and manufactures foreign to pharmacy and chemistry, while it would, without doubt, frequently be useful in laboratories. It scarcely needs a description, except to point out that the filtering medium at *a* may be any substance appropriate to the liquid to be filtered : either sand, charcoal or tow, or chopped straw, etc. The liquid to be filtered may be introduced from a high level, under pressure, and the filtering surface will always remain clear, since the solid particles sink to the bottom. The screw is intended to tighten the filtering medium according to circumstances.

Another very useful filter is the so-called sugar-house, or Taylor's filter, a modified form of which which we have described in our vol. for 1877, p. 199. A. W. von Babo, Director of the œnological and pomological school at Klosterneuburg near Vienna, has lately described * an improved form of this, which is illustrated in Fig. 2. The principal defect of the sugar-house filter was its tendency to swell out laterally, and if more than one was used at a time, they were liable to clog each other's filtering surface. This is overcome by the following arrangement. Over a pipe made of tinned iron (~~or~~ other suitable material) and closed at the bottom, a rather wide bag is slipped, into the interior of which several equidistant hoops have been fastened, so as to distend the bag to its full extent at those points. The bag is then tied at the top, at the bottom, and midway between the hoops, to the tin-pipe. The latter is perforated with openings, but only where it is covered by the bag. The whole contrivance is then set into a suitable tank, provided with a faucet. The liquid to be filtered is introduced into the open end of the pipe, whence it flows through the openings into the bag, filters through the latter, and collects as a clear liquid on the outside.

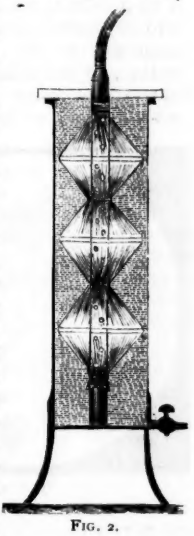


Fig. 2.

Phosphorescent Powders.

The patentees of this process (Prince Sagan, W. F. McCarthy, and E. Peiffer) employ a mixture of 100 parts carbonate and phosphate of calcium (obtained by the ignition of shells, especially *Tridana* and *Sepia*) with 100 parts of quicklime, 25 parts of calcined salt, and 25 to 50 per cent of whole mass of sulphur; 6 to 7 per cent of a coloring matter—a sulphide of calcium, strontium, barium, magnesium, aluminium, etc.—must then be added. This powder serves to render barometers, compasses, etc., luminous and is particularly phosphorescent under the influence of an electric current.

* *Die Weinlaube*, 1880, p. 6, from which we have taken the cuts.

[Original Communication.]

EXAMINATION OF MUSTARD.

BY CHANNING T. GAGE, PH.G.

Some time last year my attention was called to the great difference in the various samples of mustard, whether purchased for food or for external use. At one place there was much complaint that the mustard from a certain store was practically worthless, there being very little strength to it. For this reason I commenced a microscopical examination of samples bought in different parts of the State; I used a power of 375 diameters, though all impurities can be detected with much lower powers.

Black mustard is of most frequent occurrence, though the white is occasionally mixed with it. The principal impurities found were wheat flour and oat starch, easily identified by the peculiar structure of the grain, also by treating with iodine, on the slide of the microscope, when the mustard becomes of a yellow color (before of a whitish cast), while the starch grains are changed to a deep blue, thus forming a striking contrast, by means of which the quantity of starch present can be more easily estimated; for pure mustard contains no starch.

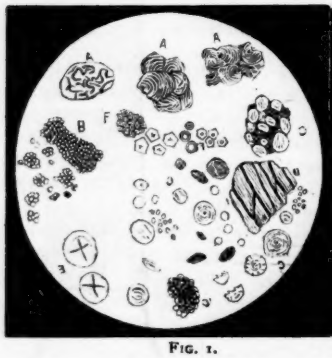


Fig. 1.

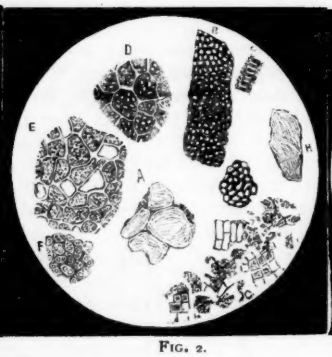


Fig. 2.

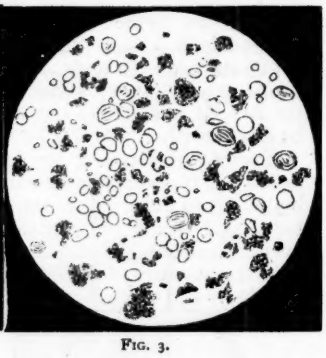


Fig. 3.

Figure 1, ×375 diameters, contains illustrations of the structure as seen in fragments in commercial samples. A is outer thin mucilaginous layer of cells; B the next coat below, dark brown with light brown cavities between, as seen in the cross section C, forming a tough flexible coating. The next layer is usually seen attached to this brown coat as in D, and detached from its proper place as a layer of cells, surrounding the central part of the seed as in E, which is also very common. G shows the gray granular material contained in the centre of the seed with its loose broken cells which are irregular and very thin. F, I, and H are varying forms of those already described.

Figure 2, ×375 diameters, contains impurities found in mustard. A is the yellow fibrous material containing the turmeric starch, the grains themselves seldom being seen. This is of a bright-yellow color, and is used to counteract the whitening caused by the large addition of wheat flour C, and oat starch B, the former being the more common. D is a fragment of wheat bran often seen. E is rye starch found in one sample. F is corn starch.

Figure 3, ×375 diameters, shows the appearance of one sample as seen in the field of the microscope and drawn with the camera lucida, representing as nearly as possible the average of the sample. Capsicum is occasionally seen, but in very small amounts, hardly noticeable.

Of ten samples examined, three contained a small amount of wheat, only a few grains in each field of the instrument as successive portions of the slide came into view; two contained a large proportion of wheat starch, oat starch, and were strongly colored with turmeric; the sixth contained wheat, bran, and turmeric; the seventh, wheat and rye; the eighth, corn and wheat; the ninth, oat; and the tenth, wheat starch; all of the latter in large amounts.

Some of these were claimed to be pure, other were not. Many dealers say they cannot sell pure mustard, it being so much more expensive than the mixtures commonly sold. It is true that these are sold at much less than the pure article, but from what I have learned in the matter, the price is not generally reduced in proportion to the quantity of foreign material introduced. Indeed, this matter of weak mustard has become so common that there is a company that is manufacturing mustard plasters, ready to be moistened and applied. These I have examined, and found them to be microscopically pure, and also capable of "drawing" more than would four times the quantity of common mustard. It seems to me that any dealer who made it a point to keep nothing but pure drugs, by proper management in buying and advertising, would be successful in establishing a business which would be beneficial both to him and his customers.

Orion, Mich., January, 1880.

[ORIGINAL COMMUNICATION.]

FORMULÆ FOR INCREASING AND DECREASING THE STRENGTH OF LIQUIDS TO ANY DESIRED DEGREE.

BY EDO CLAASSEN.*

I. GIVEN a liquid of known weight and percentage. Required to know the quantity of a liquid of the same kind, of higher or lower percentage, or of water, which will have to be added, to produce a desired *percentage*.

Let a be the quantity of the given liquid,
b its percentage of important constituent,
c the percentage of the liquid to be mixed with a,
d the desired percentage of the mixture,
x the quantity of the liquid, of higher or lower percentage, or the quantity of water, to be added to a.

1. Then we have $x=\frac{a(b-d)}{d-c}$†, if the liquid to be added is of higher or lower percentage, or in words:

To find x (the quantity of liquid to be added), multiply the difference between the percentage of the liquid a, and the desired percentage of the mixture, by the quantity of the liquid a, and divide the product by the difference between the desired percentage and that of the liquid to be mixed with a.

Example: Supposing we have 40 parts of a liquid of 50 per cent, and want to mix it with a liquid of 20 per cent, in order to get one of 30 per cent, how much of the liquid of 20 per cent must be added?

x (the quantity of the liquid of 20%)=

$$=\frac{40\,(50-30)}{30-20}=\frac{40\times 20}{10}=80.$$

2. $x=\frac{a\,(b-d)}{d}$‡, if water must be added, or in words:

To find x (the quantity of water to be added), proceed as described under 1, but divide the product by the desired percentage only.

Example: Supposing we have 40 parts of a liquid of 50 per cent, and want to mix it with water, in order to get one of 30 per cent; how much water must be added?

x (the quantity of water) =

$$=\frac{40\,(50-30)}{30}=\frac{40\times 20}{30}=\frac{800}{30}=26\tfrac{2}{3}$$

II. Given two liquids of the same kind, one of higher and the other of lower percentage; or one of any percentage, and the other being water. Required to know the quantity of the weaker liquid, to be added to the stronger, to produce a desired *weight* and *percentage*.

Let a be the desired weight or quantity of the mixed liquids.
b the percentage of the stronger liquid.
c the percentage of the weaker liquid.
d the percentage of the mixture.
x the weight of the weaker liquid, or of water, to be addded to the stronger.

Then we have:

1. $x=\frac{a\,(b-d)}{b-c}$*, if a stronger liquid is to be mixed with a weaker one; or in words:

To find x (the quantity of the weaker liquid), multiply the difference between the percentage of the stronger liquid and the desired percentage of the mixture, and divide the product by the difference between the percentage of the stronger and that of the weaker liquid.

Example: Supposing we have a liquid of 60 per cent, and another of 20 per cent. We want 40 parts of a liquid of 30 per cent. How much of the liquid of 20 per cent must be taken?

x (the quantity of the weaker liquid)=

$$=\frac{40\,(60-30)}{60-20}=\frac{40\times 30}{40}=30$$

Then the quantity of the stronger liquid will be 10 parts, to make the desired 40 parts.

2. $x=\frac{a\,(b-d)}{b}$†, if a stronger liquid must be mixed with water, or in words:

To find x (the quantity of water to be added) proceed as described under II., 1, but divide the product by the percentage of the stronger liquid only.

Example: Supposing we have a liquid of 60 per cent. We want 40 parts of a liquid of 30

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* The author draws our attention to the fact that he published, in 1875, in the *American Journ. of Pharm.*, Nov., p. 486, a series of rules for reducing or increasing the strength of liquids, which are very similar to those given by Mr. Tidball, in our last January number. While we think that there is sufficient difference in the manner of treating the subject, in the articles of these two authors, to entitle each to its proper share of originality, we take pleasure in publishing Mr. Claassen's method, which he has furnished us in a more extended and improved shape.

† Derived thus:

$$ab+cx=(a+x)d$$
$$ab+cx=ad+xd$$
$$ab-ad=x\,d-xc$$
$$a\,(b-d)=x\,(d-c)$$
$$\frac{a\,(b-d)}{d-c}=x$$

‡ Derived thus:

$$ab=(a+x)\,d$$
$$ab=ad+xd$$
$$ab-ad=xd$$
$$\frac{a\,(b-d)}{d}=x$$

* Derived thus:

$$(a-x)\,b+cx=ad$$
$$ab-xb+cx=ad$$
$$ab-ad=xb-xc$$
$$a\,(b-d)=x\,(b-c)$$
$$\frac{a\,(b-d)}{b-c}=x$$

† Derived thus:

$$(a-x)\,b=ad$$
$$ab-xb=ad$$
$$ab-ad=xb$$
$$\frac{a\,(b-d)}{b}=x$$

per cent. How many parts of water must be taken?

x (the quantity of water)=

$$=\frac{40\,(60-30)}{60}=\frac{40\times 30}{60}=20$$

That is, 20 parts of water must be mixed with 20 parts of the given liquid.

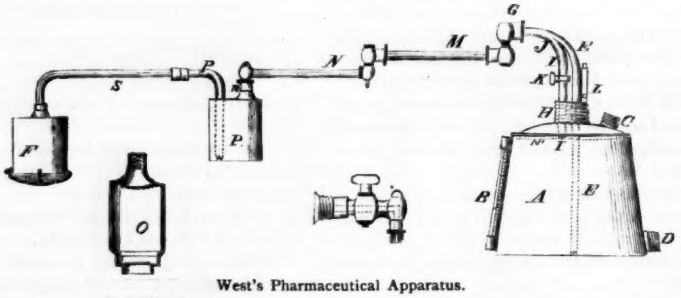
West's Pharmaceutical Apparatus.

DR. JETT T. WEST, of Selma, Alabama, has patented* a new steam-pressure apparatus, applicable for pharmaceutical, chemical, and culinary purposes.

A, Fig. 1, is a steam generator or boiler which is intended to be heated in any convenient manner. It is provided with a glass water-gauge (*B*), into which, if desired, a thermometer may be inserted. *C* is a screw-plug for filling the boiler. *D* is a screw-plug for the attachment of a faucet, to the end of which may be affixed any of the chambers for percolation, filtration, etc. *E* is a curved pipe leading from the bottom of the boiler, to be of any desired length and shape, and serving for the attachment of any of the chambers. The collar *H*, through which *E* passes, has also another pipe *I*, which begins just above the water-line *N*, and forms a junction with the pipe *E* at *J*. This is provided with a stop-cock *K*. A safety-valve *L* is also added. *O* is a receptacle to be attached for certain purposes, having a wire gauze at its upper end to prevent access of powdered drugs, etc., to the pipe, and a similar disc of wire-gauze, felt, or similar substance is placed at the lower opening. *P* is a chamber intended to bring under pressure from the boiler any corrosive or volatile liquid or preparation which it may not be desirable to heat to the degree of temperature existing in the boiler, keeping the boiler free from corrosion and contamination.

The operation of the apparatus is as follows: The receptacle *P* is charged with ether, alcohol, or other menstruum desired, and the chamber *F* with the medicinal substance in the form of powder, a disk of wire-gauze or other filtering material being attached to its bottom. Heat is then applied to the boiler filled with water, the steam generated passing up the steam-pipe, the stop-cock being open, and thence through the connecting-pipes *N M* to the chamber *P*, where it acts upon the upper surface of the menstruum, forcing the latter into the pipe *p*, and thence into the chamber *F*, containing the medicinal substance, and through the filtering material in its bottom into any measure or other receptacle.

For decoctions the pipe *S* is attached at the joint *G* and the chamber *F*, into which place the medicinal or aromatic substance or article to be cooked. Now, if the substance is hard or dry, or both, leave the faucet open until the steam has softened and prepared the powder or substance, and when this has been accomplished, turn the stop-cock *K* and the boiling water is forced up the pipe *E* and on the chamber *F*, through the medicinal substance or compound or article to be cooked, and thence through any of the filters, percolating or other strainers that may be desired, and previously secured, as already shown, and the active principle is thus extracted in a perfect and uniform strength. Beef, chicken and mutton broth, tea, coffee, chocolate, soup—in short, any kind of infusion, decoction, or like process—can thus be accomplished with great rapidity and dispatch.



West's Pharmaceutical Apparatus.

* Patent 222,109, Nov. 25th, 1879.

Unguentum Hydrargyri.

BY EUGEN DIETERICH.*

THERE are but few articles which have caused so much trouble to pharmacists, theoretically as well as practically, or which have elicited so many and sometimes curious propositions, as Mercurial Ointment. It seemed to me, therefore, of interest to practically test these propositions (excepting only those which appeared to be too absurd), in order to be able to decide on their merits from experience acquired by practice. The succession of the following 24 propositions is chiefly chronological.

* The author refers in his paper only to such processes as have been recommended in Europe. Some of these being but little known here, they may be found of interest. The author could have found several more propositions—some of them very useful, in English or American publications.

1. *Reinsch* takes 1 part of turpentine and a little alcohol, for 18 parts of mercury. Turpentine is inadmissible, according to the Ger. Ph.; still, I tried it, and found his statement well-founded, but would recommend absolute instead of common alcohol.

2. *Heusler* adds ether. Ether, petroleum-ether, chloroform, etc., are only palliatives. They act only momentarily; on gradual evaporation most of the mercury is again separated.

3. *Reinige* uses machine-power, and an addition of Oleum Terebinthinæ Sulphuratum (see *Germ. Ph.*). The former I approve, but the addition I regard as entirely improper. Hence no actual trial was made.

4. *Loewel* suspends a mixture of olive oil and mercury from the saw of a saw-mill, and extinguishes by shaking ["succussion"]. This process is much recommended. I could not test it for want of facilities. But it would probably be unsuitable for larger quantities.

5. *Luedersen* finds that, on protracted extinction, a darker colored salve is obtained, caused by the formation of black oxide. I found this statement as to color confirmed, but do not agree with his explanation. My apparatus extinguishes in 2 hours, so that I am unable to perceive any more globules. On continuing the trituration 5 to 6 hours, a darker gray salve is obtained. But during this short time, it is impossible that an oxidation should have taken place [?]. Whether this would occur after triturating for a week or longer, I must leave undecided.

6. *Guibouet* states that the spec. grav. of a salve made in the proportion of 1:2, is 1.715. *Buchner*, sen., and *Hager* give it at 1.330. I found it to be 1.320–1.340.

7. *Heanley* proposes to add (instead of nitrate of potassium, recommended by *Polmonti*) 6 parts of sulphate of potassium for 500 parts of mercury. No trials made.

8. *Mouchon* adds ½ stearin (stearic acid?). I obtained a negative result with stearic acid.

9. *Snoep* boils the fat which is to be used, for some time with water, then dehydrates it again, and obtains thereby "extraordinary results," which I cannot confirm.

10. *Coldefier* places 500 parts of fat under a bell-glass, having previously spread it out on a plate, and having pierced it with many holes to increase the surface. He then suspends a piece of phosphorus in the bell-glass, and allows it to stand for 15 days. This ozonized fat he transfers to a glass flask, adds 250 parts of mercury, warms until the fat begins to show signs of melting, then shakes strongly and continuously, and cools rapidly by immersion in cold water. I tried only the first portion of the process, using ozonized fat in trituration, not by succussion. The process works decidedly more rapidly than when using ordinary fat, but not nearly as rapidly as when using old mercurial salve.

11. *Overbeck* believes that old mercurial salve contains mercury in solution, and ascribes to this cause its capability of extinguishing the mercury. As I shall subsequently show, this is not the reason.

12. *Geissler* recommends machine-power, after the English pattern, that is, an iron trough kept in cradle-motion, in which two iron balls serve as pistils. Such an arrangement is used for dissolving indigo in sulphuric acid; the only difference is that, in the latter case, porcelain capsules and glass balls are used. I believe that in the present case the choice of machine-labor is wise, but that, nevertheless, the result is not satisfactory.

13. Prof. *Ludwig* prepares mercurial ointment by a "chemical process." In a solution of mercurous nitrate he precipitates the metal by means of sulphurous acid gas, so that the globules can be seen only with a lens; then washes the precipitate and mixes it with fat. Did not try this; but believe the method would long ago have been adopted if it were reliable.

14. *Magnus* triturates with fixed oil of almonds and balsam of Peru, and prefers liquid fats in general. Balsam of Peru being excluded by the officinal formula, I tried merely the oil of almonds, but could not obtain the desired results.

15. *Anonymus* proposes to use 2 parts of lard and 1 part of Japan wax. This mixture is but little better than pure fat.

16. *Adolph Brejcha* uses Unguentum Glycerini (Glycerite of Starch), which he claims to solve the problem. On trial, no result was obtained.

17. *Wallet*, of Amiens, hastens the extinction by adding the mercury in small quantities, and triturating until each portion is extinguished, before a new portion is added. This process is quite rational, and it is only to be wondered at that such a simple and effective method had not previously been proposed. This is the only way by which mercury can be extinguished with fat without great loss of time.

18. *Unknown.* It was asserted some 4 or 5 years ago, that anhydrous fat was equally effective in extinguishing the mercury as old mercurial ointment. I am compelled to contradict this statement. Both hydrated and anhydrous fat take up mercury with difficulty. The former, however, differed from the latter (the anhydrous), by being converted, on trituration, into a foamy mass resembling pomatum. Anhydrous fat seems under all circumstances preferable, as the presence of water promotes rancidity.

19. *Unknown.* Thinking that rancid fat had a greater affinity for mercury than fresh fat, and concluding that this supposed property depended on the presence of free fatty acids, somebody proposed to add to the fat, intended for use, a few drops of olein. On trial, the mass became foamy, and did not combine with the mercury.

20. *Donovan* supposes that the metal becomes converted into black oxide in the salve, and that

it became effective only in this state, while all the unaltered metal is washed. In order to prepare such an ointment, which would be free from metal, he digests the black oxide for some time with fat at 150–160°, then allows to cool and triturates. The proposition was not tried, as it produces a product differing too much from that of the Germ. Ph.

21. *Godeffroy* uses vaseline instead of old blue ointment, and claims to attain the object rapidly. I caused 500 gm. of vaseline to be put in the apparatus with 3,000 gm. of mercury, and was astonished how rapidly both substances mixed. The metal became separated into thousands of globules and formed with the vaseline a grayish-white homogeneous mass, glittering with metallic globules. This mixing required only 2 minutes, while, to attain the same condition with fat, at least 10 or perhaps 15 minutes would have been necessary. At first I thought that I had found the vehicle so much desired, but soon found that, on further trituration, the diminution of metallic particles ceased, so that even after 8 days' trituration the result remained the same.

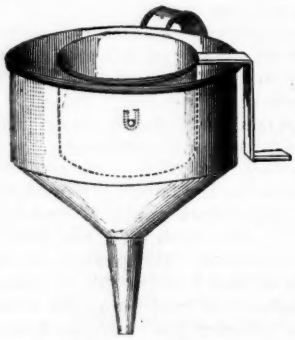
22. *Lautenschläger* conducts ozone into melted fat, and succeeds in extinguishing the metal rapidly. I acknowledge that this method of ozonizing fats is more correct than that given under No. 10; but as the preparation of ozonized fat requires time, it is more rational to at once use old ointment.

23. *Kenzel.* At the end of the last century, Kenzel, a regimental surgeon of the electorate of Saxony, prepared a mercurial ointment of great reputation, by triturating 6 grains of sulphur with 2 ounces of fat, whereby he obtained, not only a shortening of the labor, but a much *more energetic action* of the salve. This is quoted merely as a curiosity.

24. *Hager* (in *Pharm. Prax.*) leaves the choice between old blue mass, and a mixture of 1 part of wax, 1 of tallow, and 1 of olive oil. This mixture is far inferior to old salve, and furnishes tolerable results only if absolute alcohol is added.

25. Great stress having often been laid upon the necessity of using free fatty acids, and the results having been so unsatisfactory, I thought of trying the other extreme, namely to add alkali, in form of aqueous and alcoholic solution of potassa. The effect was as indifferent as when pure fat was used.

Of all these propositions, the only one which is successful, is to use mercurial ointment. But it is *not* necessary to use *old blue* ointment, but even the *fresh* will answer, no matter if it is only a day old. Having established this fact, and knowing that such freshly-made ointment could not owe its activity to rancidness, I came to the conclusion that the state of fine division of the metal in the salve causes the affinity of the salve for further quantities of mercury. To test this, I prepared some samples of mercurial salve in which the metal was incompletely extinguished. The result was as expected: it required two days' trituration to produce a perfect ointment. This is in harmony with Wallet's proposition (17), to add the mercury in small portion, and I therefore recommend this as the best, having used the same process for years. In revising the process for Unguentum Hydrargyri for the next Pharmacopœia, I recommend to use "mercurial ointment," and not "*old* merc. oint.," for extinguishing the metal; further, to add the mercury in portions, and to examine it with a low-power lens, as Hager proposes.—Translated and abstracted from *Pharm. Centralh.*, 1880, Nos. 1–2.



Funnel Measure.

THE funnel measure here shown is an English patent (Goddard's). It is made in various sizes, from a gill to a half-gallon, and is very serviceable in preventing waste, insuring cleanliness. and economizing time. The measure proper is hung on trunnions inside of the funnel, the trunnions resting in sockets, so that it can readily be removed and cleansed. This arrangement also permits either the measure or funnel to be used separately.

Alkaline Solution of Guaiacum Resin.

DR. W. W. MORRIS writes to the *British Medical Journal:* Guaiacum resin is now so frequently given in quinsy, rheumatism, gout, syphilitic and scrofulous skin-diseases, and the officinal forms are so inelegant, that a preparation which mixes readily with water, and is not gritty like the powder, has long been a desideratum. The ammoniacal tincture is not perfectly suspended by the addition of syrup, mucilage, etc., and the powder quickly subsides in the mixture containing sugar and gum acacia, which, when shaken up, becomes frothy and difficult to measure; besides which, the sediment becomes so hard as not to be easily shaken up. A very useful alkaline solution of guaiacum, readily miscible with water, with which it forms a smooth, opaque emulsion, keeping for months in its diluted form without decomposition or precipitation, and which, when undiluted, does not "fur" the bottle like Tinctura Guaiaci composita,

has recently been introduced by Mr. T. D. Sneath, wholesale druggist, Newark on the Trent. The strength is five grains to the ounce; the dose one to three drachms, and the price less than that of the tincture of the Ph. Br.

Zinc Veins and Works of Lehigh Valley.

ZINC ore was first discovered in Pennsylvania on the site now occupied by the small village of Friedensville (Village of Peace), in Lehigh County, in 1845. The village stands at the head of the beautiful Saucon Valley, rich in an agricultural sense, and doubly so in minerals—iron and zinc. In 1847, William Theodore Reepper, a resident of Bethlehem, and late Professor of Mineralogy in Lehigh University, from a pure love of science wandered over the spur of the South Mountain, that separates the Saucon Valley from Bethlehem, and was shown by a farmer (Ueberoth) a mineral that had puzzled the local mineralogists to classify. He pronounced it to be "calamine," or native carbonate of zinc. This hap-hazard discovery led to the development of the apparently inexhaustible mines that have for more than a quarter of a century supplied the large works of the Lehigh Zinc Company at this place. The works were erected by Maj. Samuel Wetherill, now of Philadelphia, in 1853, for the production of zinc oxide, in furnaces, by a process of Maj. Wetherill's invention. The works cost $85,000, and on October 13th, 1853, they produced the first zinc-white ever made in America. Maj. Wetherill commenced his experiments as early as 1850, believing that it was possible so substitute the oxide of zinc for white lead for paints. In 1852 he successfully invented his "furnace process." This, combined with the "bag process" of Richard Jones, Esq., made the matter possible. Before completion the works were blown down by a tornado, but immediately rebuilt, Charles J. Gilbert, Esq., of New York, being Maj. Wetherill's partner. The works had an annual capacity of 2,000 tons. Up to 1857, when Messrs. Gilbert & Wetherill sold out to "the Pennsylvania and Lehigh Zinc Company," the product had been 4,775 tons of oxide. This company was composed of New York capitalists, with a capital of $1,000,000, and Thomas Andrews, of New York, was the first president. Maj. Wetherill continued in the superintendence of the works until 1857, when he was succeeded by Mr. Joseph Wharton, of Philadelphia. The latter leased the works, and his financial ability, and his means and credit floated the concern through the financial storm of 1857. In 1860 the title of the company was changed to the Lehigh Zinc Company. The capacity of these works is as follows: For oxide of zinc, 3,000 tons per year; for metallic zinc, 3,600 tons per year; for sheet zinc, 3,000 casks, or 1,800 tons, or about one-half the annual consumption of the country. From 300 to 500 men are employed by the company, and 40,000 tons of coal are annually consumed. The old oxide works include about two acres of buildings, furnaces, tower, dry room, bag room, and packing houses. The ore for this purpose is ground fine by a stone crusher, and then carefully mixed with coal known as "buckwheat," next in grade to "pea." It is then transferred to the furnaces, of which there are fifty-four, with 1,390 feet of grate surface. Within these the mixed coal and ore are reduced by the direct action of heat and the cold blast upon a furnace bed having a multiplicity of small holes, each producing the reducing flame of the blowpipe. The zinc oxide rises, passes through a huge combustion flue to a large circular tower, 50 feet high, in which the oxide and ashes separate. The ashes being heavier than the oxide, the velocity of the fans which impel the product forward lifts the oxide to the top, and the ashes drop to the bottom. The oxide is forced onward through a cooling room, size 80 by 40 feet, and heated to from 400° to 700° F. Thence the oxide is blown through large flues into the "bag" room. This is a large building, devoid of furniture, excepting long bags of muslin, 45 feet long, in which the oxide is deposited. It is now white as snow, and, after being kiln-dried and bolted, it is placed in bags, and by heavy pressure reduced in bulk, barrelled, and is ready for shipment. The works occupy ten acres of ground, and their cost has been as follows: Oxide works, $125,000; spelter works, $100,000; rolling mill, $51,800. Total, $276,000.—*Public Ledger.*

Bonjean's Ergotin.

A. CATILLON gives the following method for the preparation of Bonjean's ergotin. Powdered ergot is packed in a displacement apparatus and covered with 75% alcohol. After 12 hours a fresh quantity of alcohol is added, until 5 parts of the latter have been used for every 1 part of ergot. The last portions of the alcohol are displaced by water, taking care not to use an excess of the latter, about as much as the weight of the ergot. The percolate is then subjected to distillation until an aqueous solution of an extract is left floating on a resinous substance. When cold, the solution is decanted, the residue washed with a little distilled water, the whole filtered and evaporated on the water-bath. After some time, during the evaporation, there will be noticed, on the surface, a slight insoluble pellicle, which may be disregarded, or else removed by filtration. The evaporation should be carried to pretty firm consistence. The resulting extract is of fine red color, brighter than that of the aqueous extract, and of agreeable odor. It is completely soluble in 70% alcohol and in water (10 grams dissolved in water leave on the filter a residue weighing only 15 milligrams).

On ignition, the extract leaves 6 to 8% of ash, while the aqueous extract only leaves 5 to 6%. The mean yield of ergot, in aqueous extract, is 7–8%, in alcoholic extract over 10%.—*Rép. de Pharm.* and *Pharm. Zeit.*

The Solubility of Cream of Tartar.

THE following table of the solubility of cream of tartar in water at different temperatures has been constructed on the basis of the experiments of Carl Portele and C. v. Babo :

Temperature of the solution in degr. of Centigrade.	Grams of Cream Tartar in 1,000 cc. of the solution.	Grams of Cream Tartar in 1,000 gm. water.
0.0	3.7	3.7
0.5	3.65	....
3.	3.45	....
9.2	3.67	....
10.	3.76	....
15.	4.11	4.11
17.	4.92	....
19.	5.97	....
22.4	7.87	....
25.	8.43	8.45
30.	10.20	10.24
34.9	12.81	....
40.	14.50	14.61
50.	19.31	19.54
60.5	24.75	....
69.	31.60	....
75.4	35.80	....
80.	40.50	41.66
95.4	53.25	....
100.	58.50*	61.02

—*Die Weinlaube.*

Action of the Resins of Iris and Euonymus atropurpureus on the Liver.

PROFESSOR RUTHERFORD, of Edinburgh, finds both these substances to be powerful stimulants of the liver in the dog, while they do not powerfully stimulate the intestines. Although less powerful than podophyllin, the milder character of their influence on the intestine will cause them to be preferred. Moreover, the action of the liver under their influence is less liable to be hampered and diminished by intestinal stimulation—as is apt to be the case with podophyllin.

The average dose of iridin is four grains; of euonymin, two grains. In either case two grains of extract of hyoscyamus should be added and taken at bedtime, for without this some persons experience griping. Neither substance produces headache or any sickness. In some persons the above doses of both substances produce a sufficient purgative effect, but in other cases the purgation is insufficient or delayed, and griping is then apt to ensue. The most beneficial result is obtained by following the dose of these remedies by a mild saline aperient, such as Püllna or Carlsbad water, on the following morning, so that the bile secreted during the night may be fully and quickly removed. "I have in my own case noticed slight depression after four grains of iridin, which I never observed after two grains of euonymin. I therefore inferred that the latter is preferable when repeated stimulation of the liver is desirable. It is, however, important to remember that, although euonymin usually suffices to quickly remove a slight feeling of biliousness, iridin is, I am convinced, the more powerful remedy of the two when the tongue is decidedly yellow. I have in such a case been more than once surprised to find that on awaking in the morning, after taking four grains of iridin the previous night, the yellow tongue and the bilious sensations were entirely gone. Since the publication of our results these remedies have come into very general use. Mr. Hardyman, of Cardiff, states that he has used euonymin in two-grain doses at bedtime in over fifty cases of biliary derangement and sick headache, and finds it of much value. Finding that in most cases one dose is insufficient he gives two grains at bedtime on two successive nights, following it each morning with a saline purge."—*The Practitioner.*

* Somewhat uncertain, as it was difficult to obtain a clear boiling solution of cream of tartar.

Thymol and other Antiseptics in Ozæna.

LENNOX BROWNE writes to the *British Medical Journal:* I have for a very long time abstained from prescribing *carbolic acid* as a gargle or nasal douche; not only, however, on account of its danger, but also, because of its taste and odor, which are, to many persons, most objectionable. *Permanganate of potash*, also, though to be highly recommended on account of efficacy and price, has the disadvantage of staining the skin, as well as all linen with which it comes into contact. This objection does not apply with the same force to *Condy's ozonized sea-salt*, which is, I believe, simply a mixture of more or less purified common salt with the permanganate; and, in the proportion of a teaspoonful to a tumbler of warm water, it serves very well the double purpose of a mild antisepticism and of increasing the specific gravity of the irrigating fluid used with the ordinary anterior nasal douche. In cases of actual ulceration with necrosis of the nasal passages, however, something stronger is required, and in the early part of the year Mr. —— took great trouble in preparing for me some solution of thymol, salicylic acid, etc., on which we jointly experimented. Commencing with a solution of *thymol* (5 gr. in 12 fl. oz. of water), with a little glycerin and rectified spirit—that is, about 1 in 1,000 (the proportion of Volkmann's solution), we found that it was necessary to dilute it to one-fourth of this strength before it could be borne as a nasal douche, and that even then the smarting produced was of a much more stinging character and of much longer duration than that caused by any other remedy in ordinary use and similarly applied. As a gargle, also, even when the

mucous membrane was normal, it produced quite an irritant effect. On this account, therefore, we rejected it from further consideration.

We then tried *salicylic acid* in the following form: Salicylic acid, 2 drachms; rectified spirit, 10 drachms. One fluid-drachm of this solution (representing 10 grains of the acid) to half a pint of tepid water—in other words, about 1 in 500—made an agreeable non-irritating and efficient gargle or nasal douche for use with the postnasal syringe, but did not serve with the ordinary anterior douche, because the specific gravity of the fluid was not sufficiently great. We therefore tried the following: Borax, 3 drachms; salicylic acid, 2 drachms; glycerin, 2½ ounces; water to 3 ounces. One or two drachms of this mixture to the half-pint of water, at 95° Fahr., acted quite efficiently, whether used with anterior or postnasal douche, or as a gargle; and this form has now been used by me for many months. It has the advantage over and above its antiseptic qualities of being not only non-irritating, nor obnoxious in taste, but, on the contrary, of being even emollient, and of agreeable flavor.

These remedies of which I have been speaking are of especial value in the cases of ulceration, which, when occurring in the nostrils, is now by general agreement considered to be always due to syphilis. But there are many cases in which the ozæna arises from catarrhal inspissation, retention, and consequent putrefaction of the normal secretion. For such, a solution of chloride of ammonium and borax, about 10 grains of each to the half-pint of warm water, acts admirably in clearing away the offensive accumulation, and in restoring the mucous membrane to healthy secretion.

In all cases of ozæna, of whatever kind, it is important to keep the passages as moist as possible, so as to prevent reincrustation between the periods of using the douche; and, for this purpose, the interior of the nostrils should be well anointed with vaseline, containing about five grains of iodoform to the ounce.

It is further necessary in many cases to prescribe lozenges for the purpose of deodorizing the expired breath. The compressed lozenges of Wyeth, containing chlorate of potash, and chlorate of potash and borax, are now well known and approved by the profession; but it may not be generally known that Mr. Cooper, of Oxford street, has made some antiseptic effervescing lozenges containing thymol and salicylic acid, one-tenth of a grain of the active ingredient in each variety. Some of my patients who have tried them have reported most favorably on their utility.

I would say one word on the fluid called *Sanitas*, which owes its remedial properties to the camphoric acid and the peroxide of hydrogen [?] it is stated to contain. I am fully aware that many practical chemists speak sceptically both of its constitution and of its therapeutic value; but I feel justified in stating, as the result of a long and extensive experience, that, both as an antiseptic and as a disinfectant, I hold it in very high estimation.

The White Wax of Sze-chuen.

DESCRIBING some curiosities of trade in China, the *Pall Mall Gazette* gives a number of interesting facts with regard to the production of the white wax of Sze-chuen.

In the Keen-chang district of that province there grows in abundance the *Ligustrum lucidum*, an evergreen-tree with pointed, ovate leaves, on the twigs of which myriads of insects spread themselves, like a brownish film, in the spring of each year. Presently the surface of the twigs becomes incrusted with a white, waxy substance secreted by the insects, and it increases in quantity until the latter part of August, when the twigs are cut off and boiled in water. During this process the wax rising to the surface is skimmed off, and is then melted and allowed to cool in deep pans. By one of those curious accidents which have done so much to increase the knowledge of mankind, it was discovered that, by transporting the insects bred in Keen-chang to the less congenial climate of Kea-ting Fu, in the north of the province, the amount of wax produced was vastly increased. No people more readily discern a commercial advantage, or more speedily take advantage of one when unencumbered with political considerations, than the Chinese; and this singular effect of removing the insects from a congenial climate to one so uncongenial as to prevent their breeding was eagerly taken advantage of by the Sze-chuen traders.

Travellers by night on the high-road between Keen-chang and Kea-ting Fu may meet in the spring of the year hundreds of wax merchants, each carrying his load of female insects, big with young, on their way to the wax farms in Kea-ting Fu. The journey is rough and long, and a fortnight's sun would precipitate the hatching, which should take place after the females have been attached to the trees. To the unscientific eyes of Chinamen, the round, pea-like female appears to be nothing more than an egg, and this belief is the more excusable since the birth of the young is the signal for the death of the parent, of whose previous existence there remains only as evidence an outer shell or husk. Six or seven of these prolific mothers are wrapped in a palm leaf and tied to a branch of the *Ligustrum lucidum*. In a few days swarms of infinitesimally small insects creep forth and cluster on the twigs of the tree, where they fulfil their mission and perish with its accomplishment in the boiling-pot each August. Baron Richthofen considers the value of the insect wax to be on an average upwards of $3,000,000; and during last year there was exported from the one port of Hankow upwards of $400,000 worth of it.

RECENT PAPERS.

The Art of Dispensing.*

(*Continued.*)

OINTMENTS.

BORACIC ACID OINTMENT. (Lister's.)—

Boracic acid, in fine powder	1 part.
White wax	1 "
Paraffin	2 parts.
Almond oil	2 "

According to J. A. Culfe the best method of dispensing this is to dissolve the wax and block paraffin in the almond oil, transfer to a warm mortar, add the boracic acid in fine powder, and triturate till the mass becomes creamy. Transfer, in small quantities at a time, to a cold mortar, and continue trituration till a smooth ointment is formed.

It is advisable to warm the acid before adding it to the fats.

UNGUENTUM HYOSCYAMI.—

Ext. hyoscyami	℥ i.
Adipis	℥ i.

(*Dorvault.*)

Ext. hyoscyami,	
Adipis	ana ℥ ss.
Glycerini	℥ i.

(Middlessex Hospital.)

GLYCERIN is most easily incorporated into ointments by using a mortar which has been first thoroughly warmed by hot water.

Liq. antim. terchlor.	♏v.
Hydrarg. ammon. chlor.	gr. xx.
Hydrarg. nit. ox.	gr. xv.
Potassæ subcarb.	℥ i.
Adipis	℥ i.

This ointment retains its pink color if the carbonate of potash be rubbed down with a little lard, but if dissolved in a few drops of water, the final addition of the liq. antim. chlor. produces a dirty-brown color, due to the formation of ferric hydrate, iron always occurring in commercial samples of "butter of antimony." In a fatty medium the incompatibles are unable to react. This is further instanced by the fact that tannin ointments may with impunity be made with a steel spatula, as no blackening occurs unless an aqueous ingredient is present.

PLASTERS.

PLASTER paper shapes may generally be attached to skins by merely damping the former. If any adhesive material is used, a thin starch paste is the best, and it should be used freely, so that the "shape" should not roughen the surface of the skin in removal.

BREAST PLASTERS should be about seven inches in diameter, exclusive of one inch margin, with a hole near the middle of one inch in diameter and with a piece cut out beginning from the hole and gradually widening towards the circumference to about one inch, so as to allow the plaster to be adapted to the curved surface of the breast.

FUCUS CRISPUS, CATAPLASM.—Stretch a sheet of wadding on a frame, spread over it a concentrated and mucilaginous infusion of fucus crispus. Place over it another sheet of wadding and strike it lightly with a brush, that the mucilage may penetrate equally throughout. Lay it over a moderately-heated stove and allow it to dry. When required for use it should be placed on a large plate, and sprinkled with nearly boiling water. It swells considerably, and absorbs a large quantity of water.

EMP. CANTHAR. should not be sprinkled with pulv. canthar., but a warm spatula used to smooth it.

ACID CARBOLIC.—A cold saturated solution in water contains 5 per cent. When a larger proportion is ordered in a mixture with water it can be suspended by triturating the acid with an equal quantity of mucilage of acacia, and gradually adding the water. This addition, however, should not be made without authority.

*Adapted from the *Chemists' and Druggists' Diary* for 1880. We have not altered the nomenclature of the original.—ED. N. R.

PESSARIES AND SUPPOSITORIES.

We have frequently heard complaints of the difficulty of getting nicely-finished suppositories and pessaries from the gun metal moulds now generally employed in the manufacture of these medicated balls. The supposition may be wrong, but from experience we are inclined to impute much of the difficulty to an imperfect knowledge of the conditions regulating the expansion and contraction of both mould and substance used in their production. If, for example, the substance (say, oil of theobroma) be poured into the moulds at a temperature much above 140° or below 130°, the melting point being 124°, it will be found that the balls, if they come out at all, will in either case be broken and imperfect, for this reason, namely, that above the melting point the theobroma does not expand under different increments of heat in the same degree with the metal. Consequently, the higher the temperature of the theobroma the more is the metal expanded, which, cooling first, contracts on the ball like a vice. This, together, probably, with unequal cooling, produces unequal elasticities within the ball, which sufficiently accounts for the moulds refusing to give up the balls, as well as for their cracked and uneven appearance. On the other hand, should the theobroma be poured into the mould at too low a temperature, the metal at once cools it to such an extent that contraction within the mass cannot take place, and the same result ensues as in the previous case, but from the very opposite cause. The proper plan, therefore, is to heat the substance to the temperature already indicated, and having first breathed into the different cavities, so as to cause a thin film of moisture to adhere to the sides of the metal, pour the melted substance quickly in. If expeditiously and properly done, the balls when cool should slip from the mould without the least trouble, having a beautiful polished finish, and, what is more important still, having a uniform composition and structure, and not with the active medicinal agent all concentrated at the apex, as is always the case when the heat applied has been excessive.

Another difficulty frequently experienced is in mixing with the melted theobroma unmiscible substances, such as aqueous solutions, extracts, etc. In such cases the difficulty is generally overcome by first rubbing the solution or extract with a small portion of the unmelted theobroma, until the mass is thoroughly homogeneous, when it seldom fails to incorporate with the melted portion. A ball, for example, containing extract of belladonna, is not unfrequently ordered by medical practitioners. This extract fails to mix in any proportion with the melted theobroma, nor does the addition of such solvents as water, spirit, oil, glycerin, etc., which sometimes in other cases assist, at all facilitate its incorporation. If, however, the extract be first thoroughly rubbed up with a piece of the theobroma in a mortar, and then added to the melted portion immediately before pouring into the moulds, a very superior ball will be produced.

The settling of the active ingredient of some balls at the apex has already been referred to. We have seen a ball containing bromide of potassium sent out with all the bromide at the extreme point, forming a hard, gritty, almost insoluble mass, which must have been not only exceedingly disagreeable to the patient, but even dangerous. This is perfectly inexcusable and need never occur if care be taken to have the substance first thoroughly impalpable, and then incorporated with a small piece of the theobroma previous to adding to the melted portion at a temperature a little over the melting point. There is, moreover, another evil attending the over-heating of the mixture, where powders of a ponderous nature, such as bromide and iodide of potassium, or acetate and iodide of lead, are ordered, namely, the impossibility of an equal division of the substance where a number of balls are being simultaneously made. The powder falls to the bottom of the dish, owing to the fluidity of the theobroma, and no amount of stirring or dexterity of manipulation will ensure its equal distribution. The following are the strengths of

some of the non-officinal balls as ordered by a leading physician:—

	Pessaries.	Suppositories. in each
Atropia	$\frac{1}{20}$ gr.	—
Belladonna extract	5 grs.	½ gr. to 2 grs.
Opium	2 grs.	2 grs.
Bismuth oxide	15 grs.	10 grs.
Zinc oxide	15 grs.	10 grs.
Alum	10 grs.	—
Alum and catechu	10 grs. of each	—
Acetate of lead	7½ grs.	—
" " and opium	5 grs. and 2 grs.	—
Gallic acid	10 grs.	—
Iodide of lead	5 grs.	—
Sulphate of zinc	10 grs.	2 grs.
Iodide of potassium	10 grs.	—
Bromide of potassium	10 grs.	—
Gall and opium	—	5 grs. and 1 gr.
Santonin	—	3 grs.
Aloin	—	1 gr.

SUPPOSITORIES.

In Parrish's "Practical Pharmacy" the subjoined instructions are given:—

The attempt to form a pure cocoa-butter into suppositories is hardly ever completely successful, and combination with wax, as directed by Dorvault (one of wax to seven of cocoa-butter), is now found to be inferior to the admixture of a small proportion of spermaceti, which has the merit of congealing much more rapidly than wax, and hence favors the rapid and complete solidifying of the cones. The proportion of spermaceti may be varied according to the haste with which they are to be completed and the exposure to heat to which they are liable afterwards. In summer, one-fifth of the whole may be spermaceti, in winter, one-sixth.

There are two ways suggested for medicating suppositories; the most ready method is to introduce the medical ingredients, in powder or mass, into a conical opening in the base of the finished and hardened cone, which is then closed up by replacing into the orifice sufficient of the hardeued cocoa-butter; the other and preferable process is to mix the dry and powdered ingredients with a portion of the melted fat by thorough trituration, and then to add the remainder, taking care to stir the mixture until it has sufficiently cooled and thickened to prevent the subsidence of the powder, and then to form into moulds. Some extracts may be incorporated very satisfactorily by rubbing them with a spatula on a tile, first with a drop of water, then with a little of the melted cocoa-butter. The aqueous extract of opium, which is much prescribed in this form of preparation, is best dried on a clear, dry day upon a pill tile, reduced to a very fine powder, and triturated with sufficient melted coca-butter, so that five grains of the mass contain one of the extract. In this state it is not affected by the weather, and is readly distributed, either alone or with acetate of lead, tannin, Monsell's salt, and other astringents.

Substances soluble in cocoa-butter may be incorporated into the form of suppositories with great facility by digesting them in the melted cocoa-butter previously to adding the spermaceti. Where there is liability to the presence of crystals of nitrate of potassium as in old extracts, or where any insoluble portion would interfere with the perfect smoothness of the suppositories, the melted material should be strained before moulding it.

The mould in which the suppositories are made should be thoroughly chilled, either by placing it in iced water, being careful to wipe it thoroughly dry before using, or in winter by placing it in the open air. When the suppository has quite cooled, it will fall out by inverting the mould and striking it suddenly on a slab or tile.

The chief points to be observed to insure successful manufacture of this useful form of preparation, are: First, the complete incorporation of the medicinal ingredient as an impalpable powder with the melted mixure of cocoa-butter and spermaceti; second, the chilling of the melted mass to such a point that while it will flow from the cup or capsule it will not allow the rapid subsidence of the suspended powder; third, when using metallic moulds to have them so refrigerated in advance as to harden the suppositories almost immediately on contact. [See the previous article.]

Suppositories other than B. P. should be made with cocoa-butter only. The following method has been found to overcome the difficulty experienced by some in removing them from the mould:—The cocoa-butter is to be melted in a dish, which is placed temporarily over a saucepan of water. As soon as melted, place the powdered ingredients, or if extracts (previously rubbed smooth with a few drops of water) on a slab, and add only just sufficient of the melted butter to rub the powders, etc., to a smooth paste, then add more, taking great care that it is not too hot. When about half has been added stop, and return to the dish the mixture of butter and powders, and stir constantly till nearly cold; if lumpy, hold the dish above the escaping steam, and rub the lumps down. (It is very important not to reliquefy the mass.) When the lumps are thoroughly removed, pour into the mould; perhaps only four or six holes are filled before the mass is too solid to pour out. This is just as it should be. Now take the dish and hold it again about 4 or 6 inches above the escaping steam, stirring till it seems sufficiently fluid to pour about six more, and so on.

N.B.—The mould should be well washed with soap and water, and polished with washed leather. Before using, and just as the hole is about to be filled, breathe into it. Do not, for instance, breathe into the 24 all at once, or the moisture will have had time to aggregate into drops, and so spoil the surface of the suppositories.

EXPLOSIVE COMBINATIONS.

Käuffer (Liège) says he had to prepare a pomade containing chloride of lime and flowers of sulphur. The trituration of these substances caused a series of small detonations, followed by the whole bursting into flame. He had often prepared the same pomade before without any such result, and he supposes the chloride must have contained some chlorate.

The same author mentions that on another occasion a stone jar was brought to him to be filled with turpentine. On pouring the turpentine in, the vessel broke, and a cloud of black smoke escaped. There had remained in the jar a small quantity of sulphuric acid.

The addition of nitrate of silver to essence of bitter almonds to remove the hydrocyanic acid has been followed by ignition.

Chloride or iodide of nitrogen is formed by the addition of chlorine or a chloride, or iodine or an iodide, to ammonia, and this compound is liable to violent explosion on coming in contact with phosphorus, iodine, arsenic, olive or cod-liver oil, turpentine, etc.

Tincture of iodine and ammonia are often prescribed together, and iodide of nitrogen is necessarily produced. The rarity of accidents is due to the fact that the iodide is not in a condition free from water.

Mr. Rice, in "NEW REMEDIES," mentions an explosion resulting from the preparation of the following prescription, iodide of nitrogen being evidently the cause:—

Iodinii.....15 grains.
Lin. camp. co.,
Lin. saponis co.....āā 60 grains.

A concentrated solution of iodine and iodide of potassium was filtered through paper. The next day the filter was touched to be removed, when the paper and funnel broke into atoms with a loud explosion.

Concentrated solutions of permanganate of potash in alcohol, are liable to explosion, and bichromate of potash in alcohol may ignite the latter. Aqua regia will also often cause an explosion with alcoholates or essences.

Chlorate of potash mixed dry with tannin is dangerous, and an explosion has resulted from its mixture with muriate of morphia. The following prescription was present-

ed at a pharmacy in New York. It cannot be prepared without an explosion :—

Lactis sulphuris	grains iij.
Antimon. sulph. aurant.	" iij.
Zinci valerian.	" i.
Potass. chlorat	" ij.

M. f. pulvis. dentur doses tales No. X.

TINCT. FERRI PERCHLOR. P.B., dispensed with an equal quantity of Acid. Nitro-hyd. dil. will develop sufficient gas to burst the bottle. The P.L. preparation is not affected.

SULPHUR HYPOCHLORIDE* is apt to explode if the bottle containing it be tapped, and if the stopper be fixed the tapping necessary to loosen it is nearly sure to cause an explosion.

The following compounds have at different times caused more or less serious accidents :—

Calcis hypophosphitis	gr. viij.
Potassæ chloratis	gr. xij.
Ferri lactatis	gr. v.

The trituration of hypophosphite of lime alone has sometimes resulted in an explosion. A man was killed at Erfurt while drying 1 kilogram of the salt in a sand-bath. It is said to be most dangerous if quite pure.

Glycerini	f. ʒ ij.
Acidi chromici	ʒ j.

This mixture can be made by adding the acid to the glycerin by very slow degrees.

A mixture containing chlorate of potash, tincture of perchloride of iron, and glycerin, once burst in the pocket of a patient.

Pills containing oxide of silver are liable to inflame if they become warm. They have taken fire in the pocket of a customer, causing severe burns.

Other compounds liable to inflame during, or after, preparation are permanganate of potash and extract of milfoil, permanganate of potash and reduced iron in pills, golden sulphuret of antimony, and chlorate of soda in pills.

It is always dangerous to associate glycerin or, in general, any deoxidizer with easily reducible compounds, such as the permanganates, chromic acid, the chlorates, and some organic acids.

INCOMPATIBLE MEDICINES.

Medical men are but rarely good chemists, for this would necessitate longer devotion to chemistry than the average medical student can afford. Hence the importance of this branch being taken by the dispenser in order that he may check the prescriber's combinations. Many decompositions are intentional, such as in mist. ferri co., B.P., or in the frequent combination of tinct. opii or ext. opii liq. with liq. plumbi subacet. for injections, also in the following :—

Ext. conii	ʒ ss.
Liq. plumbi subacet	ʒ ss.
Aquæ ad.	ʒ vi.

M. ft. lotio modo dicto utenda.

In this case the abundant precipitate renders it almost creamy, and necessitates mixing half the water with the extract, and the remainder with the liquor before mixing, or a disagreeable lumpy mixture is produced. Such combinations may be dispensed as written, and sent out with a "shake label." Occasionally, however, the decompositions are of such a character that the chemist may feel pretty sure that the writer of the prescription is unacquainted with the reaction or has overlooked it, for example,

Quiniæ sulph	gr. xij.
Acid. hydrobrom.	ʒ iv.
Pot. bromid.	ʒ i.
Tinct. lavand. co.	ʒ iij.
Sodæ salicylat.	ʒ i.
Aquæ.	ʒ ix.
Sodæ sulph.	gr. xv.
Potas. cit.	℈ i.

M. ft. pulv. mitte vi.

Zinci sulph.	ʒ i.
Plumbi acet.	ʒ ij.

M. ft. pulv. modo dict. utend.

In the first case, the salicylate of quinine produced cannot be rendered readily diffusible : pulv. tragac. co. ʒ iss. was therefore added previous to the decomposition. In the other two cases metathesis takes place, the water of crystallization of the sulphates is liberated, and the mass becomes wet. The use of an equivalent quantity of the dried salts removes the difficulty.

Potass. iodid.	ʒ ss.
Tinct. camph. co.,	
Syr. scillæ,	āā ʒ vi.
Sp. æther. nit.	ʒ ij.
Aquæ.	ad ℥ vi.

Although the sp. æther. nit. was neutralized, iodine was liberated by the benzoic acid of the tincture and the acetic acid of the syrup. Such could not be dispensed, and the physician wrote a new combination altogether, as also was the case with the following :—

Potassæ chlorat	ʒ ij.
Syr. ferri iodidi	ʒ vi.
Vin. antim.	ʒ ss.
Æther. chlor.	ʒ ij.
Aquæ	ad ℥ viij.

This mixture is almost colorless when first prepared, but rapidly acquires a reddish-brown color, and after a few days crystals of iodine are deposited. This is due to the action of chlorate of potash on ferrous iodide ; ferrous iodate being formed which splits up into basic iodate and free iodine. The chemist will have to use his discretion as to whether the decomposition is of sufficient importance to refuse dispensing ; the two last mentioned are such instances.

Incompatible mixtures are sometimes the result of impurities in the drugs used, thus :—

Sodæ hyposulph.	℥ i.
Acid sulphuros.	ʒ i.
Aq. rosæ	ad ℥ viij.

The acid invariably contains some sulphuric acid, which throws out sulphur from the hyposulphite.

Quiniæ hydrobromat.	gr. xij.
Potassii brom.	ʒ i.
Aquæ.	ad ℥ iij.

Bromide of potassium frequently contains a trace of carbonate, which occasions a precipitate of pure quinine. The hydrobromate of quinine should be dissolved in the greater part of the water (warmed if necessary), and a neutralized solution of the bromide of potassium added to it.

Potassæ cit.	ʒ iij.
Potassæ bicarb.	ʒ ij.
Tinct. aurant.	ʒ iv.
Aquæ.	ad ℥ viij.

Potassæ cit.	ʒ ij.
Quiniæ sulph.	gr. ix.
Aquæ	ad ℥ vi.

Citrate of potash is rarely neutral ; the sample used for the first prescription effervesced briskly with the bicarbonate, and examination proved the presence of nearly 5 per cent of citric acid.

Another parcel was used for the second prescription, and a precipitate of quinine was produced : examination showed it to be alkaline. In each case the citrate should have been neutralized either with potassæ carb. or citric acid.

The appearance of a sample of citrate of potash always indicates whether it is very acid or alkaline. If alkaline, it assumes a damp appearance and aggregates in lumps ; but if acid, it seems dry and pulverulent.

ALKALOIDS, whether alone or as salts, are nearly all precipitated from their solutions by tannic acid. They are, therefore, incompatible with this acid, and also with the various astringent vegetables containing it.

ALMOND EMULSION is separated by alcohol, tinctures, oxymel and syrups of squills, spirits of nitre, hard water, cream of tartar.

CALOMEL is decomposed by alkalies, alkaline earths,

* This name is applied to a mixture of sulphur and iodide of sulphur.—ED. N. R.

and their carbonates, sulphides, hydrocyanic acid, bitter almonds, lime-water, iodide of potassium, iodine, soap, nitric acid, salts of iron, lead, and copper, nitrate of silver, etc. Be careful not to use *soap* in pills containing calomel.

CHLORIDES are incompatible with nitrate of silver.

CHLOROFORM, if in a mixture containing opium or its preparations, will dissolve the narcotine, and, unless perfectly mixed, may cause an over-dose of this or some other alkaloid soluble in that vehicle to be given with the last dose.

COCHINEAL is precipitated by salts of zinc, bismuth, and nickel, in a lilac powder; iron gives a dark purple, tin a brilliant scarlet, and alumina a lake.

IODIDE OF POTASSIUM is decomposed by all acids and acidulous salts, except cream of tartar. Most of the metallic salts decompose it. If iodide of potassium and spirit of nitrous ether are ordered in a mixture, the latter must be carefully neutralized before it is used.

BROMIDE OF POTASSIUM is also, like the iodide, decomposed by acids. Chlorides, and salts of mercury, lead, and silver, are also incompatible with either.

IRON SALTS.—A sesquioxide is generally thrown down by the alkalies and alkaline carbonates; Prussian blue is formed by ferrocyanide of potassium; a precipitate of sulphur is yielded by sulphuretted hydrogen; and tannin, and vegetable tinctures or infusions containing it, form with iron the basis of black ink.

NITRATE OF POTASH is decomposed by most of the sulphates, and forms a double salt with alum.

PLUMBI ACETAS and its *liquor* are incompatible with infusion of opium, the vegetable astringents, soap, milk, or albumen. It is decomposed by sulphuric, hydrochloric, citric, and tartaric acids. Iodide of potassium causes a yellow precipitate, sulphuretted hydrogen a black precipitate, carbonated alkalies throw down a white one, and chromate of potash a lemon-yellow one.

SOLUTION OF POTASH with acids, ammonias, calomel, iodides, and with vegetable infusions containing an alkaloid principle.

STRYCHNINE is precipitated from solution of its salts by potassa or carbonate of soda.

THE SOLUBILITY OF SOME SALTS, ETC.

A knowledge of the saturating power of many salts more commonly in use is often of importance, and invariably saves time, temper, and waste of material in dispensing. Unfortunately, few of the text-books agree to any extent with each other, and fewer still with our own observation of the saturating power of any individual salt. The following are therefore given after careful experiment, and will probably prove useful in the daily routine of the pharmacist:—

Alum (cryst.)	38 gr.	to	1 oz.	water 60° F.
Chloride of ammonium	150	"	"	"
Boracic acid	18	"	"	"
Borax (cryst.)	18	"	"	"
Sulphate of copper	155	"	"	"
Bicarbonate of potass (Hds.)	130	"	"	"
Chlorate of potass	25	"	"	"
Bicarbonate of soda (Hds.)	40	"	"	"
Phosphate of soda (cryst.)	80	"	"	"
Tartrate of soda (Hds.)	350	"	"	"
Gallic acid	5	"	"	"
Sulphate of zinc	1 oz.		"	"

It may be allowable to refer here to some of the phenomena attendant on the solution of some of these salts. In making, for example, a solution of the more soluble salts, such as the chloride of ammonium or bicarbonate of potass, a very considerable reduction of temperature ensues. This will prevent a saturated solution being obtained, unless care be taken and time allowed for the equalization of temperature to take place. Again, if water over 60° F. be used, a super-saturated solution will be obtained on the reduction of the temperature to 60°, but it does not necessarily follow that there will be a precipitation of the salt. A super-saturated solution, if it is not in considerable excess, may be kept for an indefinite time if the bottle be tightly corked, or if all foreign matter be excluded from the solution. On the other hand, should a super-saturated solution once begin to crystallize out, it does not cease at the saturating point, but will continue to deposit until the solution be indefinitely under the saturating point. Again, it does not necessarily follow that because the liquid is saturated with one salt, the saturated solution will not dissolve more of another salt of unlike kind. Many solutions, if tried, will be found to have this peculiar power, and some very useful purposes may consequently be served. Lastly, it should be observed that the amount of moisture in a salt varies somewhat, and therefore the solubility may not always be exactly alike. This may be shown by taking the powder and crystal of the same salt kept even under very similar conditions, and not subject to effervescence or decomposition, such as the phosphate of soda, when the solubility of the two will probably be found to be unlike to some little, though generally not to any excessive, extent.

The following are here noticed, not so much from their strict saturating power, as from a certain pharmaceutical value, which will at once be apparent:—

Sulphate of magnesia, 1 oz., dissolves in 1 oz. water, and yields 680 grains, measures fully 1½ oz.

Acetate of potass, 1 oz., dissolves in 1 oz. water, and yields 680 grains, measures fully 1½ oz.

Chloral hydrate, 1 oz., dissolves in 1 oz. water, and yields 680 grains, measures fully 1½ oz.

Iodide of potass, 1 oz., dissolves in 1 oz. water, and yields 565 grains, measures fully 1¼ oz.

Bromide of potass, 1 oz., dissolves in 1⅝ oz. water, and yields yields 840 grains, measures near 2 oz.

Citrate of iron and quinine, 1 oz., dissolves in 1 oz. water, and yields 680 grains, measures fully 1½ oz.

With the majority of these substances it will be found exceedingly useful to have a solution ready prepared, of known strength, for dispensing purposes, and with all the foregoing a basis, at once safe from error and affording every facility in dispensing, is given by making the solution contain one part of the salt in two parts of the solution. In other words, let 1 oz. of the salt be dissolved in 1 oz. water, and filtered through a plug of cotton wool; the filter and other vessels used in effecting solution afterwards washed with water sufficient to make up to 2 oz., and in this way a solution is obtained containing one part in two. Such solutions, apart from the facility they afford in dispensing, have much to commend them. Most salts, however pure in character, will be found, unless filtered after being converted into solution, to deposit a sediment after a short time, though quite clear originally. The process of filtration, however, takes time, and this cannot always be afforded in the urgency of dispensing, and hence the filtration is frequently dispensed with, much to the detriment of the solution afterwards. Again, such solutions keep much better in the concentrated than in the diluted form. Some years ago at one of the conference meetings a solution of iron and quinine was recommended to be kept ready prepared for dispensing, but no two seemed agreed upon the strength of the solution or the proper way in which it should be preserved. If a solution be prepared as indicated above, there is no difficulty in preserving it for any reasonable length of time without the addition of chloroform, or spirit of wine, or citric acid, or sulphuric acid, as recommended by different speakers; there is no difficulty in obtaining such a solution from any properly-prepared citrate, and there need be no waste.

The following solutions may be found of general interest:—

1 oz., by weight, of chloroform, dissolves 2⅛ oz. camphor, and yields 3 fl. oz.

1 oz., by weight, of spt. wine, 60° o.p., dissolves 1 oz. camphor, and yields 1,000 grains by measure.

1 lb. of sugar dissolves in 8 oz. of water, and yields 18½ oz. by measure.

The fluidity of sugar is therefore equal to 10½ oz. for each pound. One drop of diluted sulphuric acid is re-

quired to dissolve each grain of sulphate of quinine, and to re-precipitate the quinia from this solution, half a drop of strong solution of ammonia is required for each drop of acid used.

MISCELLANEOUS.

CARBOLIC ACID.—PHENIC ACID.—The Eau phénique of the Société de Pharmacie de Paris contains, by weight, 1 part carbolic acid and 99 parts water.

TINCT. CHINÆ NIT.—

Quiniæ sulph.	2 oz.
Distilled water	10 oz.
Nitric acid	4 drachms

Mix and add

Rectified spirit	6 oz.

Dr. Kidd.

SODIUM CARBOLATE.—The following is the formula recommended by the Société de Pharmacie de Paris:—

Carbolic acid	70 grams
Caustic soda	30 grams
Water to make 1 litre.	

SALICYLIC ACID.—30 grains of salicylic acid can be dissolved in 8 oz. of water with the aid of 16 grains of borax.

POTASSIUM BROMIDE, SYRUP.—

	Parts by weight
Potassium bromide	50
Distilled water	50
Simple syrup	900

Dissolve the bromide in the water at a gentle heat, and mix the solution with the syrup. One drachm of syrup contains 3 grains of the salt.—*Société de Pharmacie de Paris.*

SYRUP OF TAR.—

Stockholm tar	15 grams
Pine-wood sawdust	30 "
Water	1,000 "
Sugar	q.s.

Mix the tar with the sawdust. Put it into the water heated to 60° C., and shake from time to time. After two hours filter upon the sugar, and make a syrup on the water-bath in a closed vessel, using 190 parts of sugar to 100 parts of liquid.—*Société de Pharmacie de Paris.*

(To be Continued.)

Contamination of Benzoic Acid with Corrosive Chloride of Mercury.—OTTO SPÖRL, of Kronach, Germany, reports having found a lot of benzoic acid, which he purchased from a wholesale dealer, to be contaminated with *corrosive chloride of mercury*. He notified the house from which it was obtained, and received the reply that the benzoic acid in question had been imported from an *English factory*, and that the impurity had already been reported to them by other apothecaries, whereupon they notified all their customers to return the article at once. Mr. Spörl had been overlooked in the transaction. The latter also states his opinion that the benzoic acid had been sublimed, in England, in an apparatus which had been used for the sublimation of corrosive chloride of mercury.—*Arch. d. Pharm.*

Query.—As there is much English benzoic acid in this country, has any of our readers ever met with this dangerous contamination? It will be of importance to examine stocks on hand.—ED. N. R.

Infringement of the Salicylic Acid Patent.—J. BANG, of Tirlemont, Belgium, obtained a Belgian patent for the manufacture of salicylic acid, from phenol, *sulphide of sodium*, and carbonic acid, on the strength of which the product was manufactured. Prof. Kolbe, of Leipzig, however, claimed that salicylic acid could not be produced in this way, and charged the manufacturer with using his (Prof. Kolbe's) process, while claiming to work under another. On his representation the Belgian authorities made an unexpected descent on the factory and found that the manufacturer used Kolbe's patented process. In consequence of this discovery, the Belgian patent has been annulled, and further legal proceedings were instituted.—*Chemik. Zeit.* and *Correspond.*

Purification of Alcohol.—Berliën, of Altona, Germany, has obtained a patent for deodorizing crude alcohol, by the addition of a small quantity of nitrate of silver, varying, according to the quality and strength of the alcohol, from 20 to 50 grams per 10,000 litres of crude spirit. The silver salt being added, the crude spirit is then distilled in the usual manner. The *Chemiker-Zeitung* adds the remark: Should the claims of the patentee, as to the employment of nitrate of silver for this purpose—for which it is not easy to give an exhaustive chemical explanation—be confirmed in practice, a considerable progress would have been made in the manufacture of alcohol, on account of the saving in charcoal. A quantity of 50 milligrams of nitrate of silver per 500 litres of alcohol would be comparatively inexpensive, as the metal itself may be regained.

The Preservation of Pharmaceutical Extracts, which, in dry air, lose their normal moisture, such as extract of opium, alcoholic extract of nux vomica, extracts of cinchona, etc., may be accomplished by inclosing the vessel containing the extract into another closed vessel, and filling the interstices between them with crystallized sulphate of sodium.—*Rép. de Ph.* and *Chem.-Zeit.*

Mollisine.—(WM. C. BAKES.) The author proposes this name for a compound of a particular kind of paraffin oil, known as Downer's spindle oil, 4 parts, and purified yellow wax 1 part. This forms a good substitute for vaseline or cosmoline.—*Am. Journ. Pharm.*, January. [This combination has been known and used in New York and elsewhere for over a year, and is probably as good a substitute for vaseline as can be devised.—ED. N. R.]

Anemopsis Californica Hook.;—Yerba Mansa.—(J. W. LLOYD.) This is a small perennial plant, nat. fam. Saururaceæ, growing in the southern part of California and Northern Mexico. The root is used by the Indians of Arizona and Sonora, in form of infusion and also in powder, as an application to venereal sores, it is said, with good effects. The powder is advantageously used on cuts and sores, as it is very astringent. The leaves, after being wilted, and applied to swellings, are said to be a sure cure.

Mr. Lloyd has examined the plant, all parts of which exhale, when broken, a pungent, disagreeable, penetrating odor. The taste is aromatic and peppery. Alcohol readily extracts all the sensible characteristics. The odor and taste are derived from the volatile oil; this is obtained, according to the experiments of the author, in the proportion of 6 fl. ʒ to the avoird. pound, by distilling the dried root with water. This essential oil is heavier than water, has a sharp, pungent taste, and the characteristic odor of the plant. It is soluble in all proportions in alcohol, ether, chloroform, and carbon disulphide.

The tincture, prepared with alcohol, is of a reddish color. Upon evaporating the alcohol at 150° F., the residue separates into a reddish oil and a gummy substance. This latter oil is also heavier than water. Its odor and taste are like that of the root when chewed. It dissolves in alcohol, ether, chloroform, and disulphide of carbon, but from the latter solution a small amount of flocculent reddish matter separates. When the solution in disulphide of carbon is filtered, a light-colored oil results, seemingly similar to the essential oil mentioned above. The gummy substance, when freed from the oil by disulphide of carbon, is granular, astringent, and peppery, of a brownish color, soluble in dilute alcohol and mostly so in glycerin.—*Am. Journ. Pharm.*

Reagent for free Hydrochloric Acid.—PROF. REALE recommends a solution of carbolic acid as a reagent for detecting free hydrochloric acid in solution of ferric chloride. The latter, on being mixed with a little carbolic acid, assumes an amethyst-blue color which afterwards changes to brown, if no free acid was present. On the other hand, the smallest trace of free hydrochloric acid causes the tint to be greenish, while a larger quantity prevents the appearance of the coloration entirely. The test is very exact. The solution of carbolic acid is best made of the strength of 1 per cent.—*Pharm. Zeit.*

Removal of Moles (Nævus).—According to Dr. Sigler, they may be removed by means of croton oil in the following manner. Push a number of needles through a cork, so that the points project 3 to 4 millimetres. Dip the points in croton oil, then insert them in the mole and withdraw. This is a sort of Baunscheidtismus. A scab will form upon the mole; and after it has dried up and dropped off, the operation is twice more repeated.—*Pharm. Centralh.* and *Ph. Zeit.*

Concentrated Waters.—The editor of the *Br. Med. Jour.* remarks on some samples of concentrated medicinal waters, such as dill, aniseed, camphor, peppermint, rose, elder, etc., made by Mr. Robinson, of Pendleton, Manchester: "Mixed with either distilled or filtered water they remain clear, and in the proportion of one to forty and one to thirty-two constitute the aromatic waters of the British and United States *Pharmacopœias.*"

Iodide of Ethyl in Capsules.—MR. MARTINDALE, of New Cavendish st., London, puts up iodide of ethyl in thin glass capsules, as first proposed by Dr. McBride, of New York, in the case of amyl nitrite. Those capsules are inclosed in silk and, on being crushed, the contents can be inhaled for the relief of asthma.

Antiseptic Treatment of Phthisis Pulmonalis.—DR. G. H. MACKENZIE, says: The article by Dr. Burney Yeo, in the *Br. Med. Jour.* of the 20th of December last, induces me to bring forward a method of treating ordinary inflammatory phthisis, from which I have obtained good results. Having, some months ago, found bacteric organisms in the sputum of a phthisical patient, it occurred to me whether their presence might be associated with a process of blood-poisoning from the decomposition and putrefaction of the products of inflammation in the pulmonary bronchi and air-cells. I accordingly experimented with various antiseptic inhalations of different strengths, and latterly have been using pure carbolic acid or creasote. I have had made, by Mr. Young of this city, a respirator somewhat resembling that of Dr. Roberts, of Manchester, but which covers both mouth and nose, and has a double breathing chamber for containing pieces of sponge saturated with a strong carbolic or creasote solution. The sponge is covered with a light layer of cotton-wool, to act as an additional filter and prevent the outward evaporation of the antiseptic. The respirator is worn *as continuously as possible* both night and day. By this means, not only is the respired air purified, but the volatile antiseptic is drawn in with each inspiration and thoroughly permeates the lungs. A renewed application of the fluid is made night and morning by means of a camel's hair brush. I have had no difficulty in inducing even young children to wear the respirator for lengthened periods, the only drawback having been a tendency to chafing of the skin by the continuous pressure of the borders of the instrument. This, however, has been overcome by having the instrument bordered with soft sponge, which answers admirably. My experience of this method of treatment has as yet been limited, and confined to cases in their first stage. The results obtained, however, have been so satisfactory as to justify me in discarding the internal administration of the various specifics and continuing the inhalations alone. It is, of course, impossible for me to say that cases of phthisis are absolutely cured by this system of treatment; but the distressing symptoms of phthisis—the night-sweats, cough, and impaired appetite—have been so ameliorated as to justify me in publishing this preliminary note, reserving for a future communication further details of the method and notes of the cases tried by it.—*Br. Med. Jour.*

Benzoate of Sodium in Syphilis.—DR. J. B. BERKHART reports the results of using benzoate of sodium internally in a case of syphilitic lupus (gummata of the skin); 3 ss. was given with the same amount of compound tincture of cardamom and 3 vij. of peppermint water twice daily, and was followed by more rapid improvement than had been customary in the experience of the author when mercurial and iodine preparations were used. The patient took cod-liver oil also, and applied a simple water dressing to the gummata.—*Med. Press and Cir.*

Keeping Qualities of Powdered Kousso.—According to ARENA, powdered kousso loses all its activity when kept in this condition for some time. This circumstance probably accounts for the occasional failure of the remedy. Only freshly powdered kousso is really active. Fresh kousso yields a green, slightly bitter resin, soluble in alcohol and ether, which becomes yellow and inactive when it is exposed for some time to the air. In old and badly kept kousso, the resin has already undergone the change, and has lost all its bitterness. According to Arena, it is this resin, and not the proximate principle koussin, which should be regarded as the active constituent. It has already been stated by others that chemically pure koussin does not kill the tape-worm.—*Geneesk. Cour. d. Nerderl.* and *Journ. de Ph. d'Anvers.*

Oxalic Acid in Diphtheria.—DR. A. CORNILLEAU of Angers states that during a severe epidemic of diphtheria, two years ago, he came across a secret preparation, which was sold under the name of "Grande Remède," and which had a most astonishing effect in curing the disease. Having caused an analysis to be made of this remedy, it was found to contain oxalic acid, potassa, and a trace of tannin. He subsequently caused the following compound to be prepared:

℞ Acidi oxalici puri.....gm. 1.5=23 grains
Infusi Theæ vir..... " 120 = 4 fl. ℥
Syrupi Aurant..... " 30 = 1½ fl. ℥

of which a dessert-spoonful was ordered to be administered every three hours. Besides, every hour a bowl or cup (larger or smaller according to the age of the child) of the following infusion was administered:

Fresh sorrel..... 150 gm.= 5 ℥
Boiling water.....1000 gm.=34 fl. ℥

In all cases, a decided improvement made its appearance from the third day of the attack; the false membranes diminished in extent as well as in thickness, and recovery generally took place at the end of the week.—*Petit Monit. de la Médecine.*

A New Application of Pepsin.—(H. FINZELBERG.) Some patients cannot bear certain remedies without great gastric disturbances. For instance, there are persons who cannot take quinia without experiencing gastralgia. According to the author, this difficulty may be entirely overcome by mixing the quinine with *pepsin.* The latter may likewise be used as an accompaniment of *digitalis*, which, when exhibited alone, often affects the stomach. Certain acids, as hydrochloric, phosphoric, and sulphuric acids, likewise cause gastric trouble to some persons. But, if combined with pepsin, they may be taken without evil consequences. The best way to administer them is to place a little pepsin into a wafer-capsule, to drop upon it a little of the acid (3 to 4 drops), mixing it with the pepsin, then to place the cover on, and to swallow the wafer with water.—*Pharm. Zeit.*

Preparation of Benzoic Acid from Benzoin.—PROF. RUD. V. WAGNER proposes to dissolve gum benzoin by digestion with 3 or 4 parts of strong acetic acid, and to pour the clear brown decanted solution into 4 parts of boiling water. The liquid is to be filtered from the grayish-brown resin precipitated by the water, and on cooling the filtrate, most of the benzoic acid will crystallize. The remainder may be obtained after concentrating the mother liquor partially saturated with milk of lime. When working on a large scale, the residuary benzoic acid contained in the acetate of calcium solutions would naturally be recovered. The resin separated from the acetic solution by the water, after being dried and fused, possesses an agreeable storax-like odor, and may be utilized for preparing perfumed sealing wax and pastils.

The solubility of benzoic in acetic acid might be, besides, utilized for other purposes; for instance, to prepare disinfecting perfumed lotions, etc.

Balsam of tolu, of Peru, and storax are likewise soluble in acetic acid.—*Polyt. Notizbl.* and *Pharm. Zeit.*

Thymol-Camphor.—(LYMES.) Chloral hydrate and camphor, when rubbed together, are known to produce a liquid. The same is the case with thymol and camphor, when brought together in the proportions of

Thymol, *two parts*..... 2
Camphor, *one* to *twenty parts*.....1–20

On triturating together thymol and chloral hydrate, they do not become liquid until after the addition of camphor. Thymol-camphor seems to be as powerful an antiseptic as chloral-camphor.—*Pharm. Journ.* and *Pharm. Zeit.*

New Method for Preparing Ceresin from Fossil Wax.—HEINRICH UJHELY, of Vienna, has patented the following process: Ozokerite* is dissolved to saturation in hot or cold ether. The solution is run through successive filters and finally run into a still, where the ether is distilled off and recovered. The condensed ether is returned automatically into the receptacle containing the crude ozokerite, where it again becomes saturated with the soluble matters; and passes on to the filters and the still. The whole of this operation is carried on in a closed apparatus, so that there is but slight loss of the menstruum. The residue left in the still, after finally distilling off the ether, represents *all* the paraffin and *all* the oil which was contained in the ozokerite. These two substances, being only mechanically mixed, are separated by cooling and filter-presses. The resulting paraffin is hard, brilliantly white, and entirely odorless. The oils, which are thus obtained free from paraffin, constitute a valuable product for machine oils. By this process, ozokerite yields 90% of pure "ceresin," instead of 60% as heretofore. [The term *ceresin* is here used to denote the pure paraffin; it seems, however, to be also applied to a mixture of paraffin and carnauba wax; see NEW REM., 1879, 174].—*Chemiker-Zeitung.*

Another method recently introduced for obtaining pure ceresin is that of Prof. H. Schwarz, who distilled ozokerite in vacuo, when it passes over (?) almost unaltered, but nearly completely bleached. He has also succeeded, by a judicious use of superheated steam, in recovering from the waste products of the manufacture the residuary ozokerite, without scarcely altering its fusing point, and almost white. The ozokerite factory of J. F. Otto, in Frankfort-on-the-Main, has used this process for nearly a year.—*Indust. Bl.*

Treatment of Hemorrhoids.—PROF. H. C. WOOD, of Philadelphia, says: "The most extraordinary results in internal piles often follow injections and retention in the rectum after each passage, of a half-ounce to an ounce of a saturated solution of chlorate of potassium with a few drops of laudanum. Of course the usual systemic treatment must be carried out, and the free use of water injections after the passage, but before the chlorate of potassium, is very serviceable."—*Phila. Med. Times.*

To Prevent Headache from Tincture of Iron.—A writer in the *Boston Med. and Surg. Jour.* says: "During the administration of the tincture of the chloride of iron, functional derangements of the stomach and liver often arise, with furred tongue, impaired appetite, headache, etc. These symptoms rapidly disappear upon adding one-half grain of the chloride of ammonium to each minim of the tincture. This combination is useful in cases of heart disease accompanied by anæmia and debility.

*The large deposits of fossil or mineral wax which have lately been discovered in the Western Territories will, it is hoped, soon be utilized, and will require the application of processes like the above.

BIBLIOGRAPHY.

EYESIGHT: GOOD AND BAD. A Treatise on the Exercise and Preservation of Vision. By ROBERT BRUNDENELL CARTER, P.R.C.S., etc. With Numerous Illustrations. London, Macmillan & Co., 1880, small 8vo, pp. 265. $1.50.

WE have long appreciated the desirability for works of this character, adapted to the needs of an intelligent class of non-professional persons; and although popular manuals have appeared from time to time on this subject, none of them can compare with this, in our estimation, for value. The author himself says that "A large portion of the time of every ophthalmic consultant is occupied, day after day, in repeating to successive patients precepts and injunctions which ought to be universally understood." And this is his reason for undertaking it. The attempt could have been made by no more competent authority, and there are very few who could do it so thoroughly and agreeably as it has been accomplished in the present instance.

REPORT ON THE REVISION OF THE U. S. PHARMACOPŒIA. Preliminary to the Convention of 1880: Being a Rough Draft of the General Principles, Titles, and Working Formulæ proposed for the next Pharmacopœia. Prepared and compiled by CHARLES RICE, Chairman of the Committee. New York, 1880, 8vo, pp. 202.

THIS is one of the most important efforts which has been made in recent years to improve the standards for the regulation of pharmaceutical practice in this country. The committee which has had it in charge comprises some of the most active of American pharmacists, who, together with others not in the committee, but who contributed valuable assistance, have succeeded in arranging a plan which, while it may be capable of improvement in some particulars, will undoubtedly exercise a very decided influence upon the character of the Pharmacopœia of 1880. We are unable at this time to review the various features of the report, but we will add that this report relates more particularly to pharmaceutical processes, and does not go into the subject of materia medica further than to merely outline the plan upon which the completed Pharmacopœia should be constructed.

The report is not for sale, but copies may be obtained by inclosing the cost of postage (6 cents) to Dr. Geo. Ross, at Lebanon, Pa.

ILLUSTRATED CATALOGUE AND PRICE LIST of Soda Water Apparatus Manufactured by Chas. Lippincott & Co., No. 925 and 927 Filbert st., Philadelphia, 1880, 8vo, pp. 98.

THIS handsome and carefully-prepared catalogue is well calculated to show the extensive line of goods manufactured by this house. It is profusely illustrated with figures of complete apparatuses, and the various portions which are most liable to need to be replaced.

SULPHATE of Quinia. Statement of the American Manufacturers regarding the Repeal of the Duty on the foreign Article. Jan., 1880, 8vo. Philadelphia.

ARKANSAS JACKSON: His Reminiscences of the Medical College of the Pacific. By Emilie Lawson (Graduate of Session '79).

PREIS-COURANT DER CHEMISCHEN FABRIK VON H. TROMMSDORFF. (No. 178.) 12mo, Erfurt, Nov., 1879.

PHARMACOPÉE UNIVERSELLE ET UNIFORMITÉ EN MÉDECINE. Rapport de la Commission Internationale nommée à Genève, en 1877. Rapporteur: Mr. le Prof. N. Gille. 8vo, Anvers, 1879.

Morrill (Arth. B.). Outlines of a short elementary Course in General Chemistry. 12mo, pp. 99, Portland.

Thamhayn (Dr. O.). Arzneimittellehre für Zahnärzte. 8vo, Stuttgart, pp. 282. $1.90.

NOTES, QUIERES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.*]

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

No. 685.—**Explosion in making Iodoform.**

Mr. A. Schlottmann, Sr., of Round Top, Texas, communicates to us the following particulars of an explosion which took place in his establishment. Having a sudden call for iodoform, he was compelled to prepare it himself, and used Mohr's process (according to Löwig's Chemie der anorg. Verbindungen, II., 45). The yield was very small, and the liquid retained a large quantity of iodine in solution. Not wishing to lose all this iodine, he acidified the solution with diluted *nitric* acid, expecting to see iodine separated. But, instead of it, there appeared a precipitate which resembled iodoform, being in scales. The flask containing the mixture was standing in the window, exposed to the rays of the sun, and about four o'clock in the afternoon an explosion took place, the upper part of the flask had disappeared, and the bottom was broken. He is at a loss to account for the accident; and is inclined to think that possibly some vapors of ammonia, which he had used about 15 minutes previously to take some spots off a lady's dress, may have had something to do with it.

Mohr's formula (originally published in *Annal. der Pharm.*, 19, 12) directs 60 parts of iodine, 60 of alcohol, 50 of potassium carbonate, and 120 of water. After the reaction has progressed as far as possible, and iodoform has been deposited, the liquid contains iodide, iodate, and formiate of potassium, and various other bodies which are not yet thoroughly studied. We are unable to say what the true cause of the explosion might have been; but is seems to us that the nitric acid must be the remote cause of it. We would certainly not have used nitric acid to recover the iodine in the solution, but would have liberated the latter by a cautiously applied current of chlorine gas. Perhaps some of our readers may be able to throw more light upon this subject.

No. 686.—**Orange Marmalade** (Wm. M. K.).

May be prepared in several ways:

1. Peel Sevilla or other fine-flavored oranges, so as to remove only the yellow part of the peel, boil this in syrup until soft, then pass the softened peels whole through a sieve, add an equal quantity of white sugar, and boil the whole with the syrup in which the peels had first been boiled. Add the juice of the fruit to a proper consistence. The orange may be either the bitter or the sweet; but it is better to use a mixture of both.

2. *Scotch Marmalade:* Seville orange juice, 1 quart; yellow peel of the fruit, grated; honey 2 lbs. Boil to a proper consistence.

No. 687.—**To recognize Fuchsine in Wine** (J. D. S.).

The natural coloring matter of red wine, like all other vegetable colors, has the property of forming an insoluble compound with basic acetate of lead. The aniline colors, however, are not affected by the latter. Upon this property the following easy test is based. Introduce into a glass cylinder 4 volumes of the wine to be examined, then 1 to 2 volumes of solution of basic acetate of lead (subacetate), and afterwards 1 volume of amylic alcohol. Shake the contents well together; then allow it to stand at rest for 10 or 15 minutes. The amylic alcohol will then rise to the top, and will be colorless, if the wine was pure; but, if fuchsine was present, this will be indicated by the red color of the amylic alcohol. This is known as Romei's test, and is capable of detecting so small a quantity as 1 milligram of fuchsine in 1 litre of wine, or about 1 in 1 million.

No. 688.—**Starch-Gloss** (L.).

According to Dr. Eduard Freise (in *Drog.-Zeit.*), the following will make an excellent preparation:

Sodium borate	85 parts.
Sodium chloride	10 "
Gum Arabic, fine white powd.	75 "
Stearin, powd.	275 "

to be mixed intimately with

Starch	435 "

The only difficulty is the powdering of the stearin. But this may be accomplished by first grating it as fine as possible, then sprinkling over it a little benzin, in a mortar, and briskly triturating.

No. 689.—**Patent Dryer** (J. and S.).

As stated in a previous number of this journal, this is made at present preferably from borate of manganese. This latter salt is *not* found native, as you suppose, but is prepared artificially by adding to a solution of manganous sulphate (free from iron) a solution of borax, when the salt in question precipitates. It should be entirely free from iron, and therefore have a white color. The commercial liquid dryer is made thus: 1 part of perfectly dry and white borate of manganese, in very fine powder, is gradually stirred into 5 parts of linseed oil, heated in a suitable vessel. By constant stirring the salt is uniformly mixed with the oil, until the latter has reached a temperature of about 200° C. (=392° F.). In the mean time, 500 parts of linseed oil are heated in a varnish-boiler (situated in the usual varnish-furnace) until the oil begins to throw out bubbles. The mixture of borate of manganese and oil is now allowed to flow, in a fine stream, into the hot oil, after which the heat is increased to a brisk boil. In about 20 minutes the hot mass is ladled out, filtered, while still hot, through cotton, and packed in cans. It may be used at once.

According to Erwin Andres, borate of manganese possesses the power of forming a drying varnish with linseed oil, even at low temperatures; 40° C. (=104° F.) is sufficient.

No. 690.—**Damp Walls** (Elizabeth; continued from query No. 657).

D. Johannsen recommends, in *Pharm. Zeit.* No. 81, as excellent paint for damp walls the following: Boiled linseed oil, oil of turpentine, rosin, each 5 parts; chalk, 15 parts.

No. 691.—**Phosphor Bronze** (J. Sch. & Co.; continuation of query 679).

This compound is also manufactured, on a very large scale, by C. W. Julius Blancke & Co., in Merseburg, Germany, in six different degrees of hardness, No. 1 being the hardest, and No. 6 the softest variety. It is sold in ingots, ready for smelting and casting, at the rate of 240 marks (about $58) per 100 kilograms.

No. 692.—**Pure Butter** (G. H. F.).

There are two reliable methods known at present by which pure butter can be distinguished from artificial butter or oleomargarine. Neither of these tests, however, will be able to indicate mixtures of the genuine and of the spurious article, unless the proportions of the two exceed certain limits. The first test, which was universally accepted as reliable, is that proposed by Hehner and Angell, generally known as Hehner's test. This has been described in full in NEW REMEDIES for 1878, p. 49. It depends upon the quantity of fatty acids which are *insoluble in water*. We cannot repeat the whole process here,

but must refer you to the place quoted above, with which you may compare also a short article published on page 278 of the same volume.

The other method is that proposed by J. Köttsdorfer (*Zeitsch. f. Anal. Chem.*, 1879, 199), in which all the fatty acids are determined volumetrically by alcoholic solution of potassa. The process is as follows: A quantity of the fat or butter to be examined is purified by remelting and filtering, 1 to 2 grams of this purified fat are weighed into a tall beaker-glass, holding about 70 cc., 25 cc. of standard alcoholic potassa are added and warmed in a water-bath. As soon as the solution boils, it is stirred with a glass rod until the fat is completely dissolved, which takes place in about 1 minute. The glass rod is then washed with alcohol into the beaker glass and carefully laid aside. The beaker is covered with a watch-glass and heated for 15 minutes at a very gentle boil. The watch-glass is then rinsed with alcohol into the beaker, and the whole of the contents once more stirred with the glass rod, so that any little particles of fat still adhering to the latter may also be saponified. The beaker is now removed from the water-bath, 1 cc. of alcoholic solution of phenol phthalein is added as indicator, and the alkali titrated back with ½ normal acid. It was found that 1 gram of genuine butter treated in this manner required between 221.5 and 232 milligrams of potassa (KOH), while other fats required much smaller quantities: beef tallow, 196.5; lard, 196; mutton-tallow, 197; olive oil, 192; rape oil, 197; Vienna oleomargarine, 196. The alcoholic potassa solution is best prepared in small quantity only, as it is gradually altered by oxidization; in making it, 32 grms. of ordinary caustic potassa are dissolved in 1 litre of 94% alcohol; 35 cc. of this will correspond to about 18 cc. of decinormal hydrochloric acid. Compare also *Zeitsch. f. Anal. Chem.*, 1879, 431.

No. 693.—**Incompatible Prescription** (J. H.).

Our correspondent asks us how the following prescription should be prepared:

℞ Quiniæ sulphat..... ℥ i.
Acidi sulphur. dil.....fl. ʒ ij.
Sodii hyposulphitis..... ʒ iij.
Syrupi aurantii.....fl. ℥ iss.
Aquæ.....fl. ℥ ij.
M. Fiat mistura.

This is clearly an incompatible mixture, and cannot be prepared as it is ordered. Hyposulphite of sodium is decomposed, in presence of acids, into sulphurous acid and free sulphur, which latter is precipitated. Hydrochloric, phosphoric, hydrobromic, and even citric and tartaric acids will produce the same effect. If hyposulphite of sodium is to be administered, it is always best given by itself. You should consult the physician who wrote the prescription and point out the difficulty to him. He might omit the diluted sulphuric acid, and order the quinia salt to be suspended in the mixture.

No. 694.—**Absinthe** (D. S. C.).

This is a species of liquor which owes its characteristic properties—taste and odor—chiefly to essential oil of absinth or worm-wood, *Artemisia Absinthium* L. It is usually prepared by dissolving the essential oils of absinth and of other aromatics in high-grade alcohol. Good absinthe should have the property of producing a milky mixture, when poured into water, which is owing to the separation of essential oils. As the quantity of oils to be taken up by the alcohol is quite considerable, the latter should have a percentage of absolute alcohol of 85 to 90. Since those varieties of "absinthe," in which absinth and calamus form the chief constituents, are not used for preparing other liquors, but are consumed in their original state, they must be colored after being poured off from the aromatic substances, if the latter are used in substance, or after the solution of the essential oils has been completed; regular "absinthe," namely, is required to have a greenish color. This is imparted to the liquor by means of a small quantity of indigo solution and a corresponding amount of a yellow coloring agent (caramel, turmeric, saffower, etc.).

There are many formulæ in existence for preparing this liquor. We shall give one for preparing it with the essential oils, and another for preparing it from the aromatics themselves:

1. Absinth.....	2 parts	(to 10 parts)
Anise.....	16 "	
Calamus.....	2 "	
Coriander.....	5 "	
Fennel.....	10 "	
Bitter almonds.....	7 "	
Peppermint.....	1 "	
Sassafras.....	10 "	
Sugar.....	70 "	
Alcohol (85–90%).....	1000 "	
2. Oil of angelica.....	3 parts	
" anise.....	2 "	
" coriander.....	5 "	
" cardamom	1 "	
" fennel.	5 "	
" marjoram.....	3 "	
" star-anise.....	6 "	
" absinth.....	3 "	
Alcohol.....	10,000 "	

It is not much used in this country, except by natives of France, Switzerland, and the neighboring countries, who have acquired a taste for it. And it is *very fortunate* that it is so, for among all spirituous liquors, there is probably none which is more destructive to the vital powers than this. Statistics in Europe have conclusively shown that the degeneration of the population in many districts—chiefly in France, where this liquor is much used—has been caused by it. It undermines the nervous system, and saps the very life of those who become addicted to it, leading in some instances, so it is said, to the production of epileptic attacks. It has been shown that confirmed absinth drinkers not only thus injure themselves, but even transmit the curse to their offspring, who often become sterile after one or two generations.—Your other query cannot be answered, as we do not know the composition of the patent medicine you inquire about.

No. 695.—**Washing-Blue.**

Liquid bluing may be made either from indigo or from Prussian blue.

1. *From Indigo:* To 12 parts of best finely-powdered indigo, contained in a capsule, add gradually 100 parts of strong sulphuric acid. Stir the mixture frequently during six hours (a longer time is better still), and then pour it slowly into a vessel containing an equal weight of water. Finally add powdered chalk to the liquid, as long as effervescence is produced; let stand a few days, and filter through paper.

2. *From Prussian Blue.* To 1 part of freshly precipitated and washed Prussian blue, contained in a bottle, add 32 parts of pure water, and afterwards ¼ part of oxalic acid. Dissolve.

Dry bluing is mostly starch impregnated with Prussian blue, and held together by means of gum arabic. Good working quantities are:

10 parts of fine white potato-starch;
10 " of white wheat-starch;
20 " of *pasty* Paris or Prussian blue (containing 30% of dry color);
1 " of indigo carmine (see NEW REM., 1877, 183);
1 " of gum arabic;

and enough water to make a uniform homogeneous paste, which, when *thoroughly* mixed, is allowed to partially dry in the air before being shaped into cakes or balls.

Different manufacturers, of course, use different proportions and also different ingredients.

The Royal Botanical Garden, at Kew, London, is to have, during the coming summer, a "students' garden, "where students will be permitted, under certain regulation, to procure botanical specimens for scientific study and observation.

CORRESPONDENCE.

To the Editor of NEW REMEDIES.

DEAR SIR:—Your last number of Feb., 1880, contained an editorial in regard to a paper of mine in the *Boston Med. and Surg. Journal*, of Jan. 15th, which shows that I so entirely failed to make myself understood, and presents my views to your numerous readers in two professions so incorrectly, that I must ask for a little of your space to set myself right.

Firstly, I did not intend to make suggestions as to the revision of the pharmacopœia (of which, by the way, I possess a copy), but objected to a large number of "new," and as it seems to me, uncalled for "remedies," being introduced into it without sufficient evidence in their favor. I did not propose to dispense with any of the preparations mentioned in your list (although I must say that I think several are superfluous), but said just what you have quoted, which does not bear the construction you have put upon it. I meant to say that the two vials mentioned might, possibly at the price of considerable inconvenience, be made to do the most important duties of these thirty-two preparations.

It is not this part of the subject, however, which is the most important. By far the larger part of my paper was devoted to extra-pharmacopœial preparations, sought to be foisted on the market by one-sided and garbled statements, to the confusion of the physician, the just annoyance of the retail pharmacist, and the injury of rational therapeutics. For instances I refer to the original. I can perhaps best define my position in regard to pharmaceutical invention and therapeutic advertising by a partly imaginary instance, to which, however, it will not be difficult to find more or less complete parallels:

The chemist who discovered that atropia was the active principle of belladonna, did a great service to chemistry, pharmacy, and practical medicine.

The manufacturer who puts an accurately weighed quantity of atropia into a neat granule, contributes greatly to convenience in dispensing.

When, however, he says that "certain unscrupulous persons have imitated his preparations, and physicians are requested, in order to protect themselves, to write X. Y. & Co. on their prescriptions," he causes great annoyance to the dispenser, since P. Q. and U. W., each of whom have their adherents, make exactly the same claims, and the apothecary is, therefore, obliged to keep a number of preparations, greatly in excess of his real needs, in order to satisfy the whims of his customers.

Lastly, when he sends a circular saying that X. Y. & Co.'s granules cure fifty per cent of cases of phthisis, prevent milk abscess, cure constipation, epilepsy, near-sightedness, cataract, and iritis, even if he fortifies these statements by certain well-known facts, or by partial quotations, or misquotations, from eminent authors, he is, in his zeal to entrap the unwary, going very far beyond his province, and what is of far more consequence, is guilty of a piece of gross dishonesty.

As to the allusions in the last two paragraphs, I can only say that rational therapeutics is not an easy subject to teach, and is made no easier by the impression, not yet extinct, and zealously fostered by "business enterprise," that therapeutics and drugging are synonymous, and that the most "progressive" physician is he who is quickest to grasp at the glittering bait so temptingly displayed by the class of advertisers to whom I have alluded.

I am very respectfully,

ROBERT T. EDES.

BOSTON, MASS., Feb. 2d, 1880.

Opium in Asia-Minor.—On October last, a notice was published in the *Phare du Bosphore*, of Constantinople, that for the encouragement of the cultivation of opium in Asia Minor, this plant will be exempt from tithes for three years from the time when its cultivation is commenced in a new district.

NEW PATENTS.

Composition for Fumigating Purposes.—Pat. No. 223,004. George W. Nichols and Thomas H. Bilyeu, Litchfield, Ill.

Composed of saltpetre, two parts; sulphur, eight parts; pulverized licorice root, two parts.

Food for Invalids.—Pat. No. 223,038. Thomas F. Gaunt, Poughkeepsie. Assignor of one-half his right to James Gaunt, New York.

The process (described) for preparing albuminose or peptone by grinding and agitating albuminous bodies, while such bodies are being digested with acid and pepsin, neutralizing the product and isolating it by filtration.

Phosphorescent Substance.—Pat. No. 223,050. Albert Kraus, Buffalo, N. Y.

A luminous substance, consisting of calcined chalk, sulphur, and bismuth.

Device for Medicinal Inhalation.—Pat. No. 223,058. James F. Morrison, Bellaire, O.

An asthma remedy, consisting of flat paper sheaths inclosing medicinal herbs which can be held in the patient's hand and ignited, so that the fumes may be directly inhaled without treating the preparation as a cigarette and smoking it, or by burning it on a plate like a pastil.

Machine for Cutting off Gelatin Capsules.—Pat. No. 223,139. Frederick A. Hubel, Detroit, Mich.

Device for Removing Capsules from Moulds.—Pat. No. 223,140 (same).

Medical Compound.—Pat. No. 223,169. Wilson E. Rials, Loreauville, La.

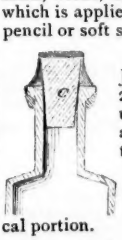
Consists of 65 parts of honey and 5 parts of steel dust, added to an aqueous infusion of 15 parts of mistletoe from white oak, 10 parts of mullein, and 5 parts of pleurisy root.

Liniment.—Pat. No. 223,306. John C. Bailey, Jersey City, N. J. Assignor of one-half his right to William A. Thorp, Philadelphia, Pa.

An antidote for the poison of bees or other insects, which consists of alcohol, oil of pennyroyal, alum, onion juice, and garlic juice.

Filter Press.—Pat. No. 223,333. Clinton Furbish, Brooklyn.

Medicine for the Treatment of Diphtheria.—Pat. No. 223,859, Leonidas L. Polk, Raleigh, N. C. Formed by mixing a decoction of oak-bark, sulphate of copper, alum, borax, honey, powdered aloes, and stronger alcohol, which is applied to the tonsils by means of a camel's-hair pencil or soft swab.



Elastic Graduated Cap for Bottles.—James I. Griffin, Jacksonville, Fla. (No. 222,780). A cap for bottles adapted to be used as a measuring cup when detached, and consisting of a flat top, an elastic and flexible cylindrical portion connected with the top at its edge, and having a band, also elastic and flexible, surrounding the mouth of the cylindrical portion.

Remedy for Catarrh.—Pat. No. 220,794, Henri E. Bissell, Hartford, Ct. Consists of a mixture of tribasic phosphate of soda, bicarbonate of soda, and sugar of milk.

Process of Producing Malt Extract.—Pat. No. 220,825, Gustavus A. Gessner, Fremont, Ohio. Avoiding the danger of fermentation during the operation by causing a heated extractive liquid to percolate through the grain, while keeping the grain heated to a temperature of from 156° to 160° Fahr.

PRESCRIPTIONS AND FORMULÆ.

We shall be obliged if our readers, who make use of these formulæ, will inform us of their experience with them, and note any errors or modifications worthy of attention.

Liquid Slating for Blackboards.—

Shellac	8 oz.
Lampblack	1½ oz.
Ultramarine blue	3¼ oz.
Powdered rotten stone	4 oz.
Powdered pumice stone	6 oz.
Alcohol, 95%	4 pints.

Dissolve the shellac in the alcohol, then add the other ingredients, finely powdered, and shake well. To apply the slating, have the surface of the board smooth and perfectly free from grease. Shake well the bottle containing the preparation, pour a small quantity into a dish, and apply it with a new flat varnish brush as rapidly as possible. Keep the bottle well corked, and shake it up every time before pouring out the liquid.—*Can. Pharm. Journ.*

Perry's Moth and Freckle Lotion.—A colorless solution with a white deposit. The solution contains .72 per cent of corrosive sublimate, and 85 per cent of zinc sulphate; the precipitate contains mercury, lead, and bismuth.—*Chandler.*

James' Blistering Ointment (veterinary).—A brown salve, in pots of about 30 grams. It consists of resin cerate with powdered cantharides, camphor, euphorbium, and nutmeg-oil.—*Hager.*

Paste for Mounting Photographs.—Mix thoroughly 630 grains of the finest Bermuda arrowroot with 375 grains of cold water in a capsule, with a spoon or brush; then add 10½ ounces of water and 60 grains of gelatin in fine shreds. Boil, with stirring, for five minutes, or until the liquid becomes clear, and when cold stir in well 375 grains of alcohol and five or six drops of pure carbolic acid. Keep in well-closed vessels, and before using it work up a portion with a brush in a dish.

Magic Polishing-Cloths.—For some time past, there have been sold in Europe, as polishing cloths, square pieces of calico, with which metallic articles could be polished and cleaned without the intervention of other substances. They were simply impregnated with a mixture of soap and tripoli, and tinted with coralline. For a piece of fabric, 70 cm. (27½ inches) long and 10 cm. (4 inches) wide, the following quantities are sufficient:

Tripoli	2 grams	(30 grs.)
Castile soap	4 "	(60 grs.)
Water	20 "	(300 grs.)

The soap is dissolved in the water, the tripoli added, and a little solution of coralline added to impart a rose color. The fabric is then thoroughly impregnated with the mixture and dried.—*Rép. de Pharm.* and *Journ. de Pharm. d'Anvers.*

Prophylactics for Scarlet Fever.—Dr. Hager, induced by the favorable reports of Dr. Barker, of Morristown, N. J., of the use of salicylic acid as a prophylactic against scarlatina, has devised a species of troches or lozenges, composed of the following ingredients:

Salicylic acid	10 gm.	154 grs.
Benzoic acid	1 "	15 "
Sugar, powd.	100 "	1,540 "
Oil of anise	5 gtt.	5 gtt.
Tragacanth, powd.	2 gm.	30 grs.
Licorice root, powd.	2 "	30 "
Glycerin	6 "	93 "
Distilled water, about	4 "	60 "

To be made into troches or lozenges, which are to be dusted over with powdered licorice root. They are to be taken mornings and evenings, being gradually chewed and swallowed, and followed by water or sweetened coffee. The number to be administered at a dose depends on the age of the children, and should correspond to a number expressing *one-half* of the child's age (1, if two years; 2, if four years; 5, if ten years). Their use should be continued as long as there are any scarlet-fever patients in the family or in the house.—*Pharmac. Centralhalle.*

Cold Cream without Fat.—

Mucilage of quince	40 parts.
Almond soap	1 part.
Stearic acid	10 parts.
Glycerin	2 "

Mix. This cosmetic is white, of the proper consistence, unctuous, and has the advantage of not turning rancid.—*Rép. de Pharm.* and *Journ. de Ph. d'Anvers.*

Dassori's Clarifying Powder.—

Albumen	300 parts.
Neutral tartrate of potassium	3 "
Alum	5 "
Chloride of ammonium	700 "

This powder is to be beaten up with cold water, like albumen alone. It must never be beaten up with the liquid to be clarified. It is used for clarifying wines, liquors, vinegar, etc., and has the advantage that it not only produces a perfectly clear and brilliant liquid, but that it also removes coloring matters. Of course, some of the ingredients of the powder remain in solution, but this is said to be harmless. For clarifying 200 litres (about 53 gallons), 60 gm. (ab. 2 oz.) of the powder are required. —*Chemiker-Zeitung.*

Hoof-Ointment.—

Benzoin	10 parts.
Catechu	10 "
Animal charcoal	10 "

Reduce to a very fine powder, and add:

Carbolic acid, pure	8 parts.
Vaseline	100 "
Yellow wax	10 "

Make the whole into an ointment, at a very moderate heat.

Useful as a healing ointment for the hoofs of horses and cattle.—*Pharm. Centralh.*

Aniline-Inks.—*Red.* Dissolve 1 part of water-soluble diamond fuchsine in 150 to 200 parts of hot water.

Blue. 1 part of water-soluble bleu de nuit (Bleu de Paris) in 200 to 250 parts of hot water.

Violet. 1 part of water-soluble bleu-violet in 200 parts of water.

Green. 1 part of iodine-green in 100 to 110 parts of hot water. This ink writes a brilliant bluish-green; if it is desired to give it a slight yellowish-green tint, a little picric acid is to be added.

Yellow. Aniline-yellows are not recommended for inks. Dissolve 1 part of picric acid in 120 to 140 parts of water.

Black. True aniline-black is not soluble in water, and can only be produced directly on the previously mordaunted fibre. For ink, take 1 part of water-soluble nigrosin and 80 parts of water.

Aniline inks should not be made too concentrated. If the writing, after drying, has a copper-like gloss, the ink should be diluted. It is important not to bring ordinary writing ink, or pens dipped into the latter, in contact with aniline inks, particularly with violet ink, as they are entirely altered and faded in color, or precipitated. If a thickening substance is wanted, 1 part of dextrin may be used for 100 parts of ink; gum arabic is not to be recommended.—*Pharm. Zeit.*

Glycerin-Soap.—100 parts olein and 314 parts of glycerin (spec. gr. 1.120) are heated to about 50° C. (=122° F.) and 56 parts of solution of soda (spec. gr. 1.340) are

added under constant stirring. After standing two days in a moderately warm place, the whole is diluted with sufficient water to permit it to pass through a filter. The filtered solution is reduced to the original weight by evaporation, 10 parts of potassa, dissolved in as little water as possible, are added, and finally any suitable perfume.—*Pharm. Zeit.*

Insufflations of Quinia in Whooping Cough.—Dr. Pollak, of Austria, recommends the following formula for insufflation in the treatment of whooping cough:

Tannate of quinia,	
Bicarbonate of sodium, of each.....	5 parts
Powdered gum arabic.....	100 "

Mix.

Artificial Carlsbad Salt.—The natural Carlsbad salt contains about two per cent of sulphate of potassium, which is omitted from the artificial salts now prepared, and unnoticed in the ordinary formulas. Dr. Uloth, in *Pharm. Centralhalle*, gives the following:

Dry sulphate of sodium.....	45 parts
Bicarbonate of sodium.....	33 "
Chloride of sodium.....	20 "
Sulphate of potassium.....	2 "
Total.....	100 parts.

To Remove Nitrate of Silver Stains.—Dr. Kraetzer, of Leipzig, proposes, as a substitute for potassium cyanide in removing stains made by nitrate of silver, the following: Ammonium chloride, 10 grams; Corrosive sublimate, 10 grams; Distilled water, 100 grams. Preserve in a glass-stoppered bottle. He says that with this solution the black stains may be removed from linen, cotton, and woolen goods, without injury of the fabric. It will also remove these stains from the skin, but although it is less poisonous than the cyanide, it is a corrosive poison.

The Production and Uses of Glucose.—*The Confectioner's Journal* says in regard to the production of glucose in this country: At first it was affirmed that sugar made from corn is injurious. The learned chemists decided that it is perfectly harmless. The consequence is, that vast quantities are now made and sold. Besides a great establishment in New York, there is another in Buffalo, another in Chicago, and several minor establishments in other cities. One of these establishments used 5,000,000 bushels of corn in 1878. Confectioners are using great quantities of glucose sugar, because from its uncrystallizable quality it tends greatly to keep certain classes of goods soft for a greater length of time, and retards granulation in other kinds, and because it saves greatly in the cost of all articles in which it is combined.

It was proved before the Congressional Investigating Committees that vast quantities of glucose or corn-starch sugar were sold to sugar refiners; also, that it is sold in great quantities to confectioners. Glucose is now largely used in mixing with California honey, one gallon of glucose to one of honey. It is also used largely in the Eastern States in the manufacture of all sweet wines, lager beer, and all liquors requiring syrups. In fact, corn-sugar is now used for all the various purposes for which any sugar is used, except for first-class confectionery. Glucose is also shipped in large quantities to Europe, where it is in large demand and in increasing quantities.

Cinchona in India.—The *South of India Observer*, during the latter part of '79, remarked that, if the quality of the cinchona crop turns out to be good, and prices keep up, the amount realized would considerably exceed the £40,000 obtained for the crop of '78.

The University of Koenigsberg has received from the German government a grant of 39,000 marks for enlargement of the site of the chemical laboratory, and 75,000 marks for increasing the experimental garden and for a site for the physical institute.

SOCIETY REPORTS

Connecticut Pharmaceutical Association.

THE fourth annual meeting of the Association was held in Atheneum Hall, New Haven, Ct., on Wednesday, February 4th.

First Session.

The meeting was called to order by the President, Hon. H. H. Osgood, of Norwich, at 11 A.M. Thirty-six members responded to their names on the calling of the roll, but there were between fifty and sixty present during the day. The Executive Committee presented the names of twenty-two applicants for membership, and they, having complied with the requirements of the constitution, were elected.

The President in his annual address alluded to the work of the Committee on the Revision of the Pharmacopœia of the American Pharmaceutical Association, and stated that appeals having been made for money to aid in publishing the report, he had sent a cheque for twenty-five dollars. He also remarked on the advisability of increased attendance at the evening sessions.

The reports of the Secretary and Treasurer then followed; the latter being a very comfortable document, showing a balance of five hundred and eighty-seven dollars in the treasury.

The Executive Committee report recommended the appointment of a committee to revise the constitution and by-laws, also that a local secretary should be appointed, who should reside in the city in which the annual meeting is held, and that a stenographer be employed to take a verbatim report of the proceedings of the meeting.

The Committee on Legislation reported progress, viz., that the Pharmacy Act having been twice reported favorably to the Senate by the joint committee of the Legislature to which it was referred, had been laid over to the present session for action. The same committee was continued with instructions to push the passage of the bill and permission was given to employ an attorney, if necessary.

The Committee on Local Formulæ reported progress, and through it, Mr. Wood, of New Haven, presented the following formula for *Potter's Powder*, as being the original form used by Dr. Potter: Cretæ præparatæ, ʒ 4; Ammonii carbonatis, ʒ 2; Camphoræ, ʒ i; M. Fiat pulvis.

The delegates to the American Pharmaceutical Association read their report on the meeting held at Indianapolis, giving a list of the societies represented, the papers read, and some remarks on the partial Report of the Committee on the Pharmacopœia, a copy of the latter as far as published being laid before the meeting, through the kindness of Mr. B. F. McIntyre, of New York.

A Committee on Exhibits was appointed, consisting of Messrs. Newton, Gessner, and Linde.

Mr. Sykes, of Hartford, introduced a motion to the effect that "this Association is in favor of the restoration of the duty on quinine." After a full discussion, it was decided that it was inexpedient for the Association, as a body, to take action on the subject. The meeting then adjourned to meet at 3.30 P.M.

Second Session.

The Committee on the "President's address" reported a resolution thanking the President for his action in contributing towards the publication of Report on the Pharmacopœia, and directing the Treasurer to repay him the money thus used. Report adopted.

The Committee on "Executive Board's Report," reported favorably on the suggestions contained therein, viz.: that a "stenographer be hired," a "local secretary appointed," and a committee to revise constitution and by-laws be raised. Report adopted.

A resolution giving the Secretary power to employ clerical help, when necessary, was adopted.

The election of officers resulted in the following gen-

tlemen being selected to manage the affairs of the Association during the coming year: *President*, Stephen Goodrich, Hartford; *Vice-Presidents*, E. A. Gessner, New Haven; W. W. Mosher, Meriden; *Secretary*, Frederic Wilcox, Waterbury; *Treasurer*, George P. Chandler, Hartford.

The motion made last year to change the time of meeting from February to May was, in the absence of its mover, laid over until the next meeting of the Association.

An invitation from the members residing in Waterbury, for the Association to hold its next annual meeting in that city, was received and accepted.

The report of the committee to whom was intrusted the drawing up of a code of ethics was then presented. The proposed code (an excellent one, and reflecting great credit on the committee) was ordered printed in the proceedings, and action thereon deferred until the next meeting.

The report of Committee on Exhibits followed, which called attention to the instructive exhibition of drugs, chemicals, and pharmaceutical preparations made by the following firms: Burroughs Bros., Baltimore, Md., a line of fine appearing fluid extracts; Lazell, Marsh & Gardiner, New York, narcotic German herbs, jalap root, pepsin, powdered extracts, granular salts, salad oils, fluid and solid extracts, and samples of L., M. & G. handkerchief extracts; Merrell, Thorp & Lloyd, Cincinnati, O., fluid extracts and resinoids, also mounted botanic specimens of indigenous plants collected by Mr. Lloyd; Powers & Weightman had a very interesting collection fine chemicals, which were tastefully displayed by their Mr. Cook, and added greatly to the interest of the exhibition; Tarrant & Co., New York, exhibited elixirs, fluid extracts, specimens of California medicinal plants, powdered extracts, Lochman's botanical plates, specimens of the fruit of Citrus Bergamia, from the peel of which the oil of bergamot of commerce is prepared, sugar and gelatine-coated pills, manufactured by Eli Lilly, Indianapolis; W. H. Schieffelin & Co., New York, soluble coated pills of their manufacture.

The session closed with a vote of thanks to the retiring officers.

Evening Session.

President Goodrich called the meeting to order at 7.40 P.M., and announced his appointment of committees, etc., as follows: *Executive Committee*, L. I. Munson, Waterbury; W. L. Guernsey, New Haven; F. Rogers, Willimantic. *Committee on Progress of Pharmacy and Queries*, F. P. Dickinson, Hartford; N. D. Sevin, Norwich; J. H. Klock, New Haven. *Committee on Local Formula*, S. Noyes, New Haven; J. G. Rathbun, Hartford; S. F. Crane, Bridgeport. *Local Secretary*, R. S. Woodruff, Waterbury. *Delegates to meeting of American Pharmaceutical Association*, F. H. Chapin, Hartford; E. S. Sykes, Hartford; A. F. Wood, New Haven; E. A. Gessner, New Haven; C. E. Bristol, Ansonia; with power to appoint substitutes.

Papers were then read on the following subjects:

1. How far is the pharmacist warranted in differing from the officinal formula of the U. S. P. in making the preparations therein described? By S. F. Crane.

2. What can be done to encourage our young men to become better pharmacists? By S. R. McNary.

3. What medicinal plants are indigenous to this State, and can they be gathered or cultivated so as to prove profitable? By F. P. Dickinson, Hartford.

4. On the adulteration of beeswax, with tests. By S. G. Norris.

5. Elixir of pepsin with bismuth. By T. F. Main.

6. The best inodorous disinfectant. By Philo W. Newton.

After the discussion on the papers, Dr. Lindsley, of the School of Medicine of Yale College, was introduced by Mr. Gessner, and accorded the privilege of the floor by the President. He addressed the meeting at some length, and eulogized the work of the Association.

The Association adjourned to meet in Waterbury, Ct., February 5th, 1881.

Iowa State Pharmaceutical Association.

In obedience to a call signed by 250 leading druggists of Iowa, a convention was held at Des Moines on the 10th and 11th of February, for the purpose of organizing a State Pharmaceutical Association, over one hundred being in attendance.

L. H. Bush, of Des Moines, was chosen temporary Chairman, and Geo. C. Henry, of Burlington, temporary Secretary. Mr. Geo. H. Schafer, of Fort Madison, explained the object of the meeting, and an address was delivered by Hon. J. D. M. Hamilton, of Fort Madison. Messages of greeting were received from the President of N. Y. State Pharmaceutical Association and the Secretary of the Western Wholesale Drug Association.

The following officers and committees were elected:

President, Geo. H. Schafer, Fort Madison. *Vice-Presidents*, Geo. B. Hogin, Newton; W. S. McBride, Marshalltown; F. W. Parish, Clarinda; Francis Lee, Clinton; C. P. Squires, Burlington. *Secretary*, H. W. Dodd, Fort Madison. *Assistant Secretary*, A. H. Miles, Des Moines. *Treasurer*, C. H. Ward, Des Moines. *Executive Committee*, W. B. Cousins, Albia; W. E. Schrader, Iowa City; Norman Lichty, Des Moines.

A committee of five was appointed on *Constitution and By-Laws*, consisting of George W. Fuller, of Keokuk; George C. Henry, of Burlington; C. A. Weaver, of Des Moines; E. L. Boerner, of Iowa City; D. B. Snyder, of Lyons.

Delegates to the American Pharmaceutical Association: T. W. Ruete, Dubuque; C. R. Wallace, Independence; A. R. Townsend, Boone; J. W. Satterthwait, Mt. Pleasant; Max Conrad, Ottumwa.

Committee on Trade Interest: R. W. Crawford, Fort Dodge; A. D. Crain, Des Moines; C. H. Holmes, Magnolia.

Committee on Pharmacy and Queries: Emil L. Boerner, Iowa City; Herman Tiarks, Monticello; Martin O. Oleson, Fort Dodge.

Committee on Legislation: L. H. Bush, Des Moines; D. Q. Storie, Chariton; D. B. Snyder, Lyons.

During the session of the second day, Mr. Peter Van Schaak, of the Chicago firm of Van Schaak, Stevenson & Co., addressed the Association on matters relating to the drug trade, and a memorial was received from a temperance organization relative to traffic in alcoholic liquors.

The following resolutions were unanimously adopted:

Resolved, That this Association has learned with pleasure of the efforts being made by the "Western Wholesale Drug Association" to secure the repeal, or at least, very material modification of the stamp act affecting medicines, perfumery, etc., and desires heartily to indorse said effort. We believe the law, as it at present stands, is unjust and oppressive.

Resolved, That our Secretary be instructed to forward a copy of these resolutions to the Commissioner of Internal Revenue and each member of the Senate and House representing this State.

Invitations were received from various cities of the State for holding the next annual meeting. Des Moines was selected by a large majority.

A vote of thanks was extended to the druggists of Des Moines and those who assisted in forming the Association, and the meeting then adjourned to meet in Des Moines on Tuesday, February 8th, 1881.

NOVELTIES.

Brown's Excelsior Ink-Powders, of which we have received samples, are manufactured by H. P. Brown, of Penfield, Pa., in red, blue, green, violet, and black. Each package contains about two drachms of an aniline color in the form of powder and crystals, which will retail for 25 cents, and will serve, not only to make a pint of good ink, but also may be used for dyeing ribbons, feathers, etc.

ITEMS.

Sixth Decennial Pharmacopœia Convention.—By virtue of authority devolved upon me as the last surviving officer of the Pharmacopœia Convention of 1870, I again call the attention of "the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy throughout the United States," to the importance of appointing delegates to the sixth decennial pharmacopœia convention, and of sending the names and residences of the same to me for publication. The convention meets on the first Wednesday in May, 1880, and I am required "to publish the names and residences of the delegates, for the information of the medical public, previous to its meeting."

I have received so far the names and residences of the following delegates:

From the Massachusettes College of Pharmacy, Boston: Prof. G. F. H. Markoe, Ph.G.; Samuel A. D. Sheppard, Ph.G.; Thomas Doliber, Ph.G.

From the Philadelphia College of Pharmacy: Prof. John M. Maisch, Alfred B. Taylor, Prof. Jos. P. Remington.

From the Louisville College of Pharmacy: Prof. Emil Scheffer, Prof. C. Lewis Diehl, E. Vincent Davis.

From the Maryland College of Pharmacy, Baltimore, Md.: *Delegates*—Wm. S. Thompson, Louis Dohme, Jos. Roberts. *Alternates*—Charles Caspari, Jr., Dr. John F. Moore, Dr. Robert Lautenbach.

From the Medical Society of the District of Columbia: Prof. D. W. Prentiss, M.D.; Prof. Thomas Antisell, M.D.; Emeritus Prof. James E. Morgan, M.D.

From the National Medical College of Columbia University, Washington, D. C.: Prof. W. W. Johnston, M.D.; Prof. D. W. Prentiss, M.D.

From the Medical Department of the University of of Georgetown, D. C.: Prof. W. H. Ross, M.D., Prof. C. H. A. Kleinschmidt, M.D., Dr. S. C. Busey.

From the National College of Pharmacy, Washington, D. C.: Mr. W. S. Thompson, Prof. Oscar Oldberg, Mr. R. B. Ferguson.

(Signed) JAMES E. MORGAN, M.D.,
905 E Street, N. W., Washington. D. C.

Washington, D. C., January 28th, 1880.

[We have recently received information respecting the appointment of the following delegates to the Pharmacopœial Convention:

From the Medical Department of Yale College, Professors C. A. Lindsley and Benj. Sillman.

From the New York College of Pharmacy, Messrs. Charles Rice, Frederick Hoffmann, and P. Wendover Bedford. *Alternates*, Messrs. H. J. Menninger, and E. P. Nichols.

From the College of Physicians and Surgeons, Medical Department of Columbia College, N. Y., Dr. Edward Curtis.

From the Medical Department of the University of the City of New York, Professors Wm. H. Thomson, Henry G. Piffard, and Dr. Andrew H. Smith.

From the Bellevue Hospital Medical College, N. Y., Professors Edw. G. Janeway, A. A. Smith, and Dr. F. A. Castle.—ED. NEW REM.]

J. Clerk Maxwell, the well-known Professor of Natural Philosophy at the University of Cambridge, England, died on November 26th, 1879.

James Brewer, prominent druggist of Springfield, Ct., died in that city. of pneumonia, on the 29th of January, at the age of 67 years.

Dr. Henry Trimen, one of the authors of the work on "Medicinal Plants" which we have frequently noticed, has left England to accept the position of Director of the Botanical Gardens of Ceylon. His place as editor of the *Journal of Botany* is to be assumed by Mr. James Britton, F.L.S.

Composition of Unfermented Wine.—Mr. Hewson, manager of Messrs. Bell's works, recently testified in an English court that he manufactured the so-called unfermented wine sold by that establishment, and gave its composition: One part of grape-juice in five parts of sugar and water is colored to taste with caramel. One of the firm testified that they had 2,834 wholesale customers for this *festive tipple*.

A New Pharmacopœia has been published in Norway, but is little more than a new edition of that of 1870, with a few modifications. A Scandinavian pharmacopœia is in course of preparation which will be used throughout Denmark, Sweden, and Norway.

The Scientific News, published by S. H. Wales & Son in this city, commences this year with an enlarged page and a larger variety of matter. Since its publication it has steadily increased in excellence and now ranks highly among our scientific exchanges.

A New Substitute for Hops has been suggested in France. In consequence of the phylloxera and the scarcity of wine, the manufacture of beer is likely to increase in that country, but the scarcity of hops is a serious difficulty. A substitute has, however, been found in the shrubby trefoil, or three-leaved ptela (*P. trifoliata*). At an agricultural show held at Chalons-sur-Marne, on the 20th of September, M. Pousard, President of the committee, presented a new beer, which he termed ptela beer. This beverage was found to be possessed of a handsome amber color, remarkably limpid, and equal in flavor to the best Strasbourg beer. This Samaritan elm, as the French term it, is a hardy North American shrub, perfectly acclimatized in France and all kinds of soils. The winged fruit or seed resembles that of the elm, and gives out an aromatic odor when rubbed. Lindley, in his "Vegetable Kingdom," speaks of the fruit having a strong bitter, aromatic taste, and its having been used with some success as a substitute for hops.—*Am. Mail.*

Cinchona.—The correspondent of *The American Mail*, in Colombia, writes: Quinine bark has suddenly attained unlooked for importance; it rapidly rose from 20,000 quintals to 80,000 quintals, and now averages 60,000 quintals annually. The wasteful method of not replanting the trees has now been abandoned in Colombia, 150,000 having lately been planted in the states of Cundinamarca, Tolima, and Santander.

The Indian correspondent of the same journal writes: The Government cinchona plantations, which cover more than 2,000 acres, yielded 250,000 pounds of bark during the year, and a profit of about half a lakh was obtained on the operations of the season. Of the out-turn of febrifuge manufactured from the bark, 5,500 pounds were supplied to Government depots in the three Presidencies and the rest was sold to the public.

New Exchanges.—Among our new exchanges we note the following: *El Medico y Cirujano Centro-Americano*, published monthly in Guatemala, if which Dr. Ferd. Cs. Valentine is the proprietor and editor; *Galveston Medical Journal*, an 8vo monthly of 32 pp., of which Greensville Dowell, M.D., is editor and proprietor, and Drs. J. F. Y. Paine, and T. J. Heard are associate editors; *The Alienist and Neurologist*, a Quarterly Journal of Scientific, Clinical, and Forensic Psychiatry and Neurology. Edited by C. H. Hughes, M.D., 8vo, pp. 125; *Walsh's Retrospect:* a Quarterly Compendium of American Medicine and Surgery. Edited by Ralph Walsh, M.D., Washington, D. C., 8vo, pp. 151, $2.00 per year.

The Metric System in Coins.—It may not be generally known that we have, in the nickel five-cent piece of our coinage, a key to the tables of linear measures and of weights. The diameter of this coin is 2 centimetres, and its weight is 5 grams. Five of them placed in a row will, of course, give the length of the decimeter; and two of them will weigh a dekagram. As the kilolitre

is a cubic metre, the key to the measure of length is also the key to measures of capacity. Any person, therefore, who is fortunate enough to own a five-cent nickel may be said to carry in his pocket the entire metric system of weights and measures.

California College of Pharmacy.—A correspondent in San Francisco writes us that since the organization of the College there has never been so much interest observed both in attendance and in the lectures as has been manifested in the season lately ended.

A senior class of 20 members with a junior class numbering 40, and a thorough practical and systematical curriculum of study, signifies that the College does not run very far behind her sister schools; if in the coming ten years she makes as much progress as she has in the past eight years, the State of California need have no misgivings, nor the University with which it is affiliated.

The University of Berlin has received from the German government a second grant of 400,000 marks for building a second chemical laboratory and a pharmaceutical institute.

The University of Marburg has received from the same source 100,000 marks (final grant) for a new chemical laboratory.

Benzin-Poisoning.—Workmen employed in the manufacture of benzin are said to suffer from the following symptoms: The temper changes, the patients become eccentric, wander sometimes, and seem to be in a condition of temporary inebriety. The strength at the same time diminishes, and patients are easily fatigued. Finally, a notable and early diminution of sexual power, almost amounting to loss, is experienced. After a time, epileptiform attacks supervene, and are sometimes preceded by a period of unconsciousness, delirium, lasting from a few minutes to three or four hours. After these epileptiform attacks, there is uniformly observed anæsthesia, more or less pronounçed, of the whole surface of the body. Another characteristic symptom is trismus, which is temporary in its duration. No cases have ever as yet proved fatal.

Patent Medicines in Europe.—Referring specially to proposed laws in Switzerland, *The Chemist and Druggist* says: "Patent medicines are evidently entering on a bad time on the Continent, if not in England. They are the modern representatives of the Jews of the Middle Ages, or the Christians of the early centuries. Persecution of them is glorified in the medical journals, especially on the Continent, as a virtue. For all this they flourish. In Germany, where their sale is prohibited by law, the stupidest remedial swindles are popular. In Russia, a paternal government watches at the gates of entry for them, and prohibits all but a favored few. That these are selected with any serious discrimination it would be an insult to pretend. All sorts of precautions are taken in France against dangers resulting from unofficial combinations, and yet Paris is the centre of a trade in them of enormous proportions, in the benefit of which Spain, Italy, Belgium, Holland, Turkey, and Austria chiefly share. A vigorous attempt is now being made to keep them out of Switzerland. A bill has been introduced into the Swiss Federal Assembly which prohibits the sale or advertisement of secret or special medicines which contain poisonous or very active substances, or of which the price is out of proportion to the value of the ingredients, or if the advertisement shall be injurious to public morality, or if the medicines are recommended for acute diseases. A commission of competent men is to be appointed to decide what are the specialties which fall under either of the named sections. Penalties of 20 to 200 francs are imposed, and publishers of journals are to be held responsible for advertisements of interdicted remedies in their pages."

Mucilage of Gum Arabic of extreme adhesiveness and durability, it is said, can be made by mixing 100 parts of gum in 250 parts of water, with 2 parts of sulphate of aluminium.

Distinction between genuine and spurious Gold and Silver Plating.—*Gold-plating:* A dilute solution of chloride of copper produces a black stain upon spurious plating; on genuine it behaves indifferent.

Silver-plating: Equal parts of dichromate of potassium and nitric acid produce a red stain upon genuine plating; on spurious plating either no stains at all, or a colored one which may be washed off.—*Neueste Erf. u. Erf.*

Transparent Glycerin-Soap.—500 parts of tallow, 500 of Ceylon cocoa-nut oil, 250 castor oil, 50 of palm oil, and 500 of glycerin, are melted together; when the mixture has reached a temperature of 70–75° C. (=158–167° F.), 650 parts of solution of soda of 40° B. (=spec. grav. 1.385) are slowly added, under stirring.

As soon as the soap is formed, which is the case in a few minutes, the vessel is removed from the fire, 600 parts of alcohol of 96% are added, and the whole is stirred until the liquid has become clear and transparent, and a sample removed from the mass with the spatula remains adherent to the latter.

Finally a solution of 100 parts of sugar in 50 of water is added, the mass is suitably perfumed, and cast in moulds.—*Pharm. Zeitung.*

Cleaning of Paintings.—J. T. C. WILLIAMS in *Pharm. Journal*, thus explains the rationale of the power of peroxide of hydrogen to restore discolored paintings:

Sulphuretted hydrogen, which is present in the atmosphere, especially in the neighborhood of towns, attacks the lead in the paint and forms lead sulphide, which is readily soluble in peroxide of hydrogen (solution), water and sulphate of lead being the result:

$$PbS+4H_2O_2=PbSO_4+4H_2O.$$

The cleaning process is performed as follows: The picture is first sponged with cold water and allowed to dry; then the solution of peroxide of hydrogen is applied with a wet sponge in successive lines, without going over the same surface twice, and the picture is allowed to dry again. If the solution is sufficiently strong, the painting is now tolerably clean, if not, a second or third application is necessary. [It will be advisable to give the painting a fresh coat of varnish after bleaching.—ED. N. R.]

PHARMACEUTICAL CALENDAR.—March.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

Date.	Society Meetings.
1st, Mon.	Massach. Coll. Ph.—Annual Meet.
2d, Tues.	Philad. Coll. Ph.—Trustees' Meet.
4th, Thur.	N. Y. Coll. Ph.—Trustees' Meet.
	Louisville C. Ph.—Pharm. Meet.
	Massach. C. Ph.—Trustees' Meet.
8th, Mon.	Louisville C. Ph.—Annual Meet.
9th, Tues.	St. Louis Coll. Ph.—Pharm. Meet.
	National Coll. Ph.—Trustees' Meet.
	Massach. Coll. Ph.—Pharm. Meet.
	Kings Co. Pharm. Society (Brooklyn).—Monthly Meet.
10th, Wed.	Cincin. Coll. Ph.—Pharm. Meet.
	N. Y. Coll. Ph.—Alumni Meet. (About this date).
11th, Thur.	N. Y. Germ. Apoth. Soc.—Mo' Meet.
	Newark Pharm. Assoc.—Annual Meet.
	Louisville C. Ph.—Direct. Meet.
	Maryland Coll. Ph.—Meeting.
16th, Tues.	New York Coll. Pharm.—Commencement at Steinway Hall.
	St. Louis C. Ph.—Trustees' and Alumni M.
	Phila. Coll. Ph.—Pharm. Meet.
29th, Mon	Phila. Coll. Ph.—Annual Meet.